JULY 19, 1954

If Pricing Can't Be Planned— . . . p. 23

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

IN THIS ISSUE:

Mechanical Division Committee Reports

Freight Operating Statistics

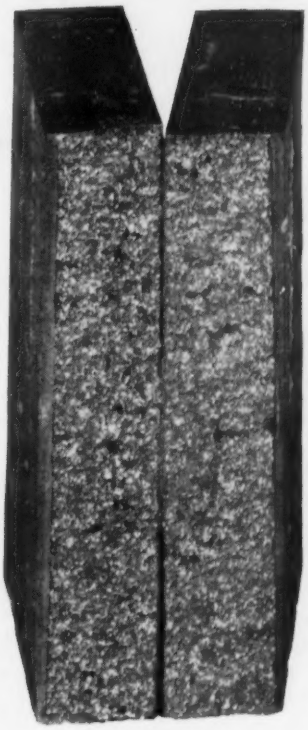
Mechanized Freight Transfer

Questions & Answers For Operating Men

Foreign Tariff Suspension Lifted

HERE IS THE DIFFERENCE

WROUGHT IRON



STEEL

These are actual photographs of fractured pieces of wrought iron and steel. The picture at the left shows the fibrous structure of wrought iron. How this differs from the crystalline structure of steel is readily apparent. It is the presence of many thousands of tiny threads of glass-like iron silicate that gives wrought iron this unique fibrous structure and it is this structural feature, duplicated in no other metal, that gives wrought iron its superior resistance to corrosion and fatigue stresses.

While the initial cost may be higher, actual service records in numerous applications prove that wrought iron is the most economical buy because it lasts longer. Your Byers Field·Service Engineer will be glad to show you fractured pieces, similar to those illustrated above. Write for our booklet, *The ABC's of Wrought Iron.*

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CORROSION COSTS YOU MORE THAN WROUGHT IRON

WROUGHT IRON

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You'll find this true on road after road.

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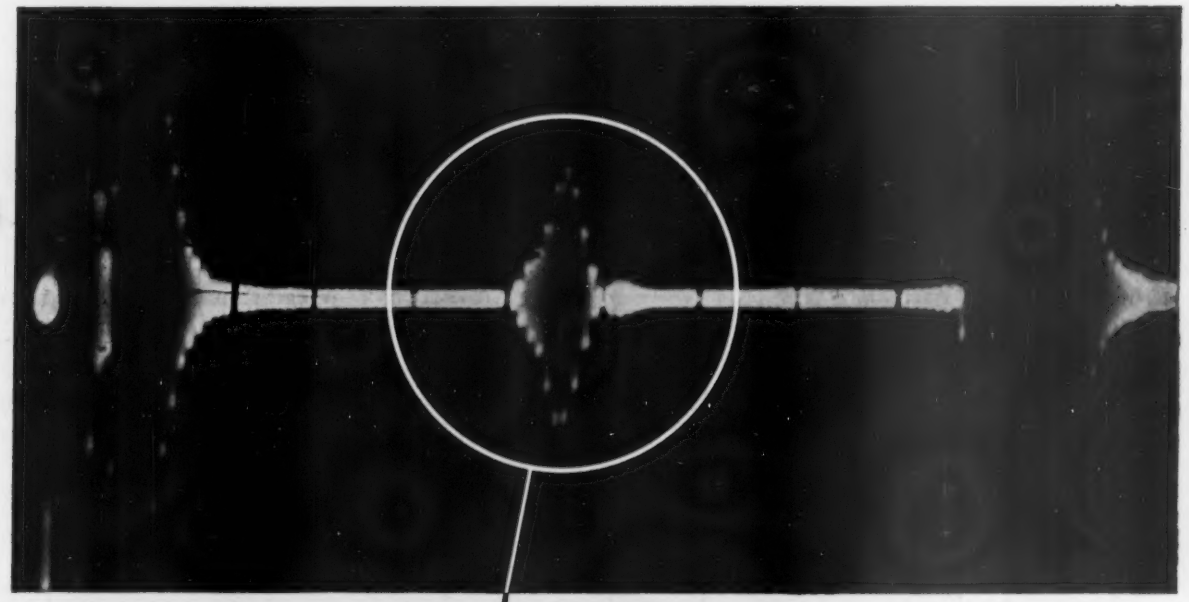

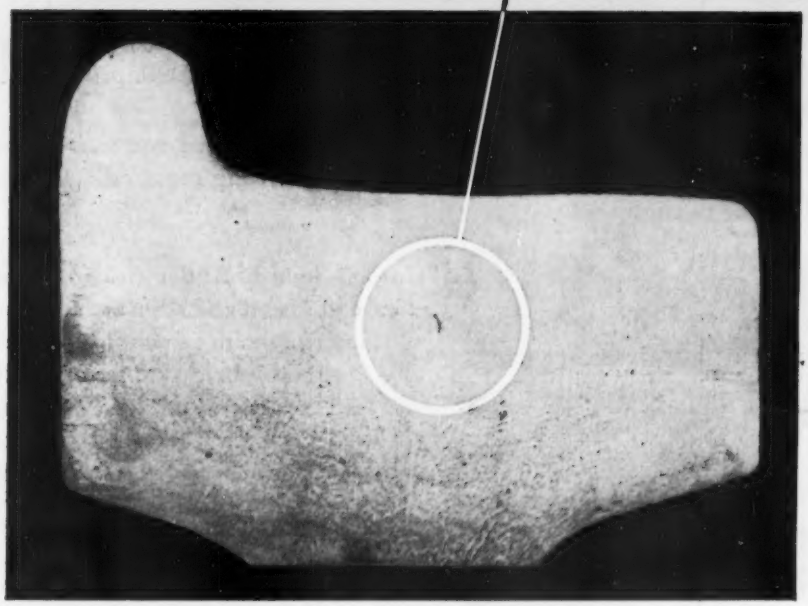

This is what the Armco wheel inspector saw on the reflectoscope screen. Graduations on the screen located a discontinuity 3 inches in from the back face of the rim directly under the searching crystal.

Here's the actual wheel rim after taking a cross-section at the point where the discontinuity was indicated by the reflectoscope. This defect measures almost exactly 3 inches from the back face of the rim—just where the reflectoscope showed it would be. (Photo ¾ size)

Make sure that your diesel wheels are sound

The defect shown here is an actual discontinuity in a wheel rim. It's at points like this that progressive internal rim fractures can start. Armco inspectors locate these discontinuities by reflectoscope and pass or reject wheels on standards of acceptance agreed to.

Armco research men who have made a thorough study of sonic testing are convinced of its reliability as a test method. That's why Armco recommends that all wheels for diesel service be sonic tested.

If you are interested in stronger, safer diesel wheels, let us supply you with *reflectoscope-tested* wheels. Just write us, or phone the nearest Armco sales office.

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SHEFFIELD STEEL • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

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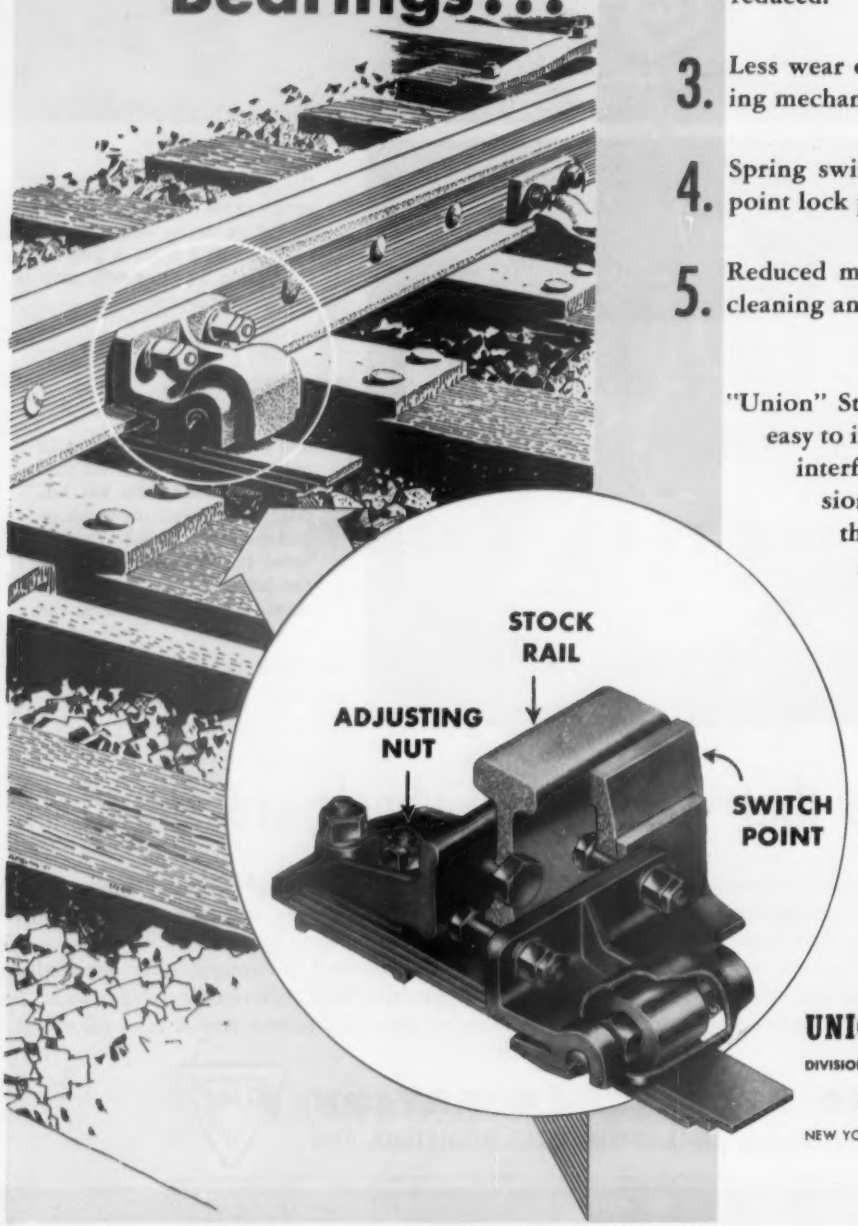

Here's What the Records Show!*

**Factual data supplied upon request.*

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4. Spring switch and mechanical facing point lock performance improved.
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July 19, 1954 Vol. 137, No. 3

Week at a Glance

An experimental "hi-level" coach, one of 2 built by Budd for the Santa Fe, was exhibited at Chicago late last week. 9

"Policy and organizational recommendations covering the whole field of transportation," and based on a "a comprehensive, up-to-date review of overall transportation policies and problems," are the job of a new Cabinet Committee on Transport Policy and Organization. The committee was established last week by President Eisenhower, with Secretary of Commerce Weeks as its chairman. 10

"It would be no surprise," we said in these pages last week, "if the ICC were to shorten suspension time on the proposed rail-billed piggyback service of six eastern roads." The suspension order was vacated even as our prediction was being printed, and the six roads in question are now operating, or ready to operate, their piggyback service. 10

You have six cars of explosives. Can you expedite their handling and still comply with current regulations? Why not try your hand in answering this latest "quiz" on the Question and Answer page. 18

FORUM—If pricing can't be "planned," what then? If rates do not reflect comparative economy of service, traffic will inevitably be diverted from more economical to less economical channels. 23

Freight transfer expanded as Wabash modernizes East St. Louis facility—underfloor chain for hauling platform trucks included—used by forwarding company. 25

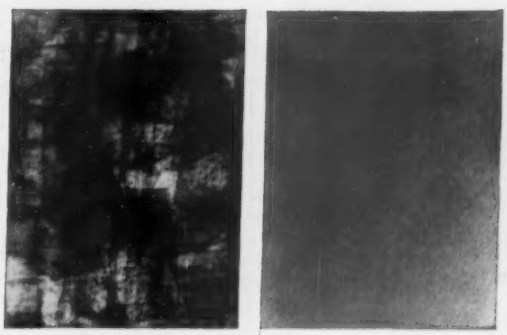
"It's a business proposition," says R. G. May in discussing car maintenance and development—Mechanical

You get more miles between armature rewinds with new G-E "mica mat" insulated coils

You can now realize greater savings in armature coil rewind costs, thanks to mica mat, another significant development in the field of electric insulation. Used to insulate G-E coils, mica mat makes them last longer. With mica mat they withstand high temperatures, stay tight in core slots, and always have the necessary insulation and varnish treatment for your specific operating conditions.

Mica mat is a high-temperature, high-dielectric material made by a special process. First, mica is fired at high temperature to change its structure. Then, it is water quenched, and pulverized. Finally, the mica flakes are recombined into uniform, continuous sheets and permanently bonded to glass cloth with silicone varnish. The result is mica mat, a highly flexible, uniform insulation that lies flat, does not puff out, and can be creased with little loss in insulating strength.

To get top performance—"modern equipment" performance—from your locomotive's traction motors and generators, always specify *genuine* G-E armature and field coils. They're the best you can buy for your GE-equipped locomotives. General Electric Co., Schenectady 5, N.Y. 128-5



Conventional mica | Mica mat insulation

WHY MICA MAT COILS LAST LONGER

Newly-developed mica mat insulation is ideally suited to combat the two factors limiting coil life—high temperature and severe mechanical abuse. Mica mat's ability to retain its insulating properties for long periods of time at 250 degrees C enables mica mat coils to operate safely at high heat levels. Its high degree of strength and uniformity withstands mechanical shock and abrasion.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Current Statistics

Operating revenues, five months	
1954	$ 3,805,777,942
1953	4,402,891,403
Operating expenses, five months	
1954	$ 3,072,350,378
1953	3,333,975,239
Taxes, five months	
1954	$ 365,310,470
1953	528,226,305
Net railway operating income, five months	
1954	$ 265,542,524
1953	448,751,912
Net income, estimated, five months	
1954	$ 166,000,000
1953	338,000,000
Average price railroad stocks	
July 13, 1954	69.15
July 14, 1953	64.03
Carloadings, revenue freight	
Twenty-seven weeks, 1954	16,979,640
Twenty-seven weeks, 1953	19,597,005
Average daily freight car surplus	
Week ended July 10, 1954	107,252
Week ended July 11, 1953	36,667
Average daily freight car shortage	
Week ended July 10, 1954	652
Week ended July 11, 1953	4,342
Freight cars delivered	
May 1954	3,173
May 1953	6,582
Freight cars on order	
June 1, 1954	15,615
June 1, 1953	57,345
Freight cars held for repairs	
April 1, 1954	102,266
April 1, 1953	94,896
Average number of railroad employees	
Mid-May 1954	1,061,885
Mid-May 1953	1,217,477

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Week at a Glance CONTINUED

Division's General Committee accepts 16 technical committee reports and selects new officers. 28

BRIEFS

A $50-billion, 10-year program, just to make "a good start" on highway construction, was proposed by Vice-President Richard M. Nixon, speaking for President Eisenhower, at the 46th annual conference of state governors at Bolton Landing, N. Y., last week. Governors were, reportedly, less than enthusiastic about the proposal, not because they don't want roads, but because they want the spending money and the resulting political patronage to be controlled from state capitals, rather than from Washington. The Vice-President said something about self-liquidation through toll charges of the grandiose highway plan, but conceded that new taxes would be needed, too.

A brand new kind of "saturation advertising" of specific railroad passenger services and fares will be tested by the Boston & Maine, starting July 19. Concord, N. H., has been selected as the locale of a month-long campaign of full-page newspaper ads, radio announcements, direct mail selling and even telephone solicitation—to determine whether a complete bombardment will really lift patronage.

Talgo-type trains, and the possibility of a substantial order for them, were the subject of a series of recent meetings in New York between Presidents Patrick McGinnis of the New Haven, Alfred E. Perlman of the New York Central, James M. Symes of the Pennsylvania and H. E. Simpson of the Baltimore & Ohio. Present at the meetings were representatives of ACF, Budd and Pullman-Standard.

Rail service between the United States and Mexico via the Southern Pacific's line through Eagle Pass, Tex., has now been restored to normal, following the recent flood in the Rio Grande valley (*Railway Age*, July 12, page 12).

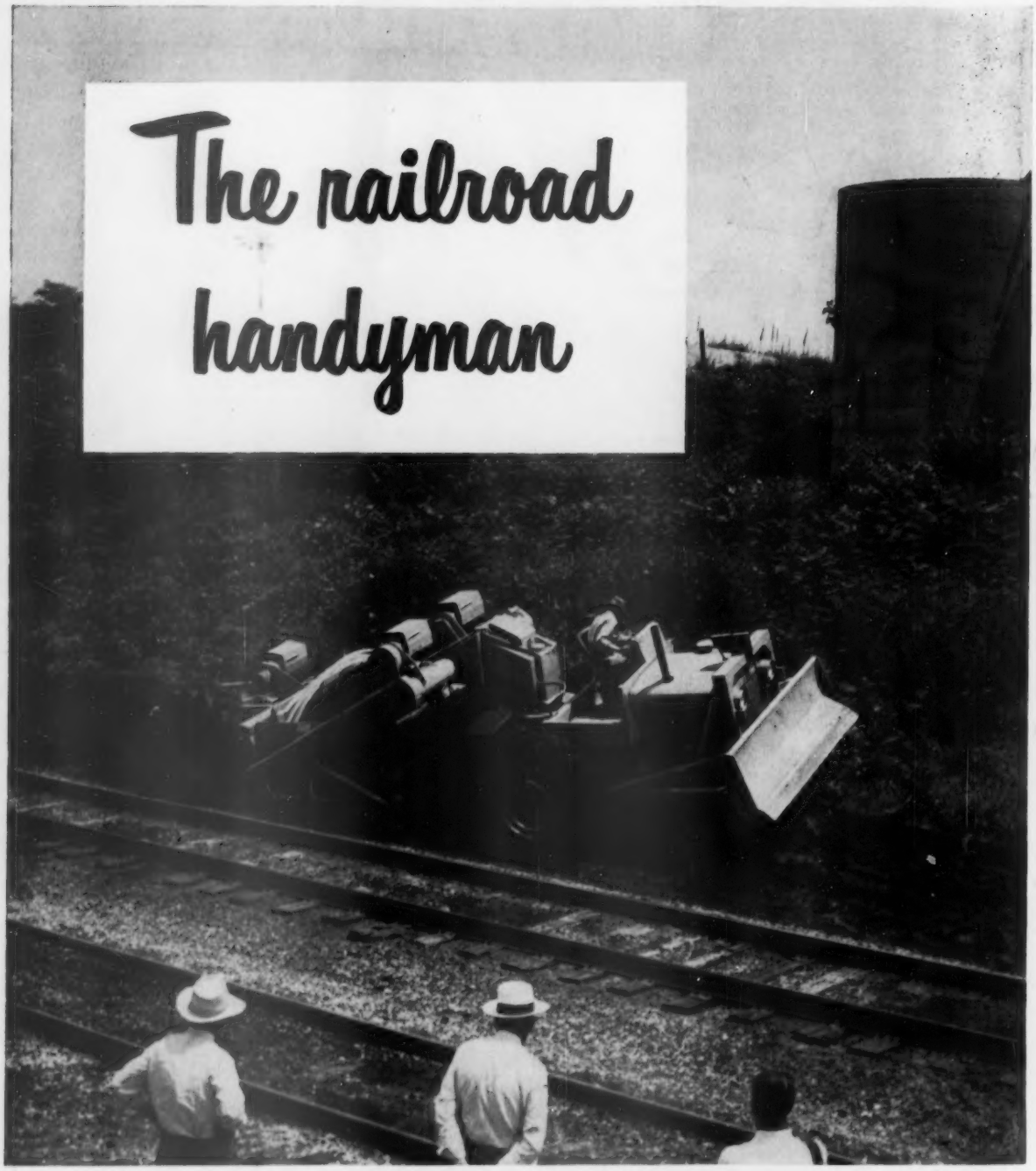
Engineer's Rear View Mirror

The Type "B" Brake Pipe Flow Indicator is much like a rear view mirror—it reflects what is going on in the brake pipe of his train—ofttimes a mile and a half away.

NEW MOVIE AVAILABLE entitled, *"AT THIS MOMENT"*—showing a vivid story of modern railroad progress. Length 26 minutes, on 16 mm. color sound film. For use of film write: United World Films, Inc., 1445 Park Ave., New York or Association Films. Inc., 347 Madison Ave., New York.

Westinghouse Air Brake
COMPANY
AIR BRAKE DIVISION WILMERDING, PA.

The railroad handyman



YOU don't need a lot of on-track equipment to handle scattered maintenance-of-way jobs. One man, working alone with an off-track D Tournapull, can often complete dirtmoving and material handling assignments that take an entire work train and crew. This "railroad handyman" drives anywhere under its own power. A phone call starts it out via track, right-of-way, or public highway. 25 miles is only about an hour away. It self-loads on the small jobs, can be push-loaded in fleet operation. It handles long or short hauls, spreads fill or ballast in place.

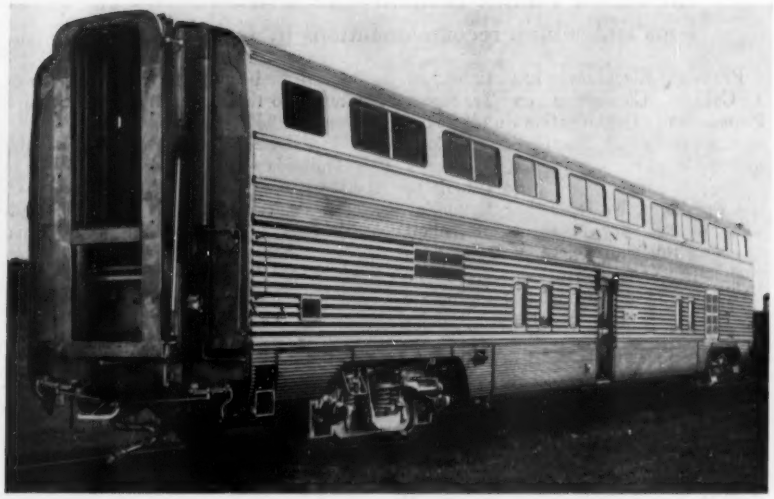
You can have confidence in the D Tournapull. It has been in production since 1948. Thousands of these handy dirt-movers are being used by contractors, mines, loggers and industries all over the world. Many are in use today on maintenance and construction projects for railroads in both the USA and abroad. This rubber-tired tractor-scraper is built by LeTourneau-Westinghouse, a wholly owned subsidiary of Westinghouse Air Brake Company. That name on any type of equipment has been synonymous with quality, safety, and satisfactory railroad service for nearly one hundred years. For proof of what D Tournapull can do for you, ask for a demonstration. Send for details today.

Tournapull—Trademark Reg. U.S. Pat. Off. DP-691-88-h

LeTourneau-Westinghouse Company

PEORIA, ILLINOIS

A Subsidiary of Westinghouse Air Brake Company



SOMETHING NEW—Space for 67 passengers in the upper level; baggage facilities, washrooms, service equipment and entrance hallway below. It's a test of . . .

"Hi-Level" Coaches for the Santa Fe

Two units built to study a new coach design that offers greater capacity, a quieter ride, easier boarding and alighting—They'll go into "El Capitan" service soon

Late last week the Santa Fe unveiled a wholly new concept of long-distance coach design in two "hi-level" experimental cars built by the Budd Company.

They are not dome cars. They are double-deck cars wherein all revenue seats are located in the upper level which, because of specially designed vestibule diaphragms, runs uninterrupted the entire length of each car. With no change in seat spacing from that of the road's standard streamlined coaches (44 to 48 seats to the car), the "hi-level" coaches each accommodate 67 passengers. Their lower level is given over to a mid-car entranceway, baggage storage space, rest rooms and service equipment, such as air conditioning, auxiliary power generators and batteries. There are no luggage racks overhead in the upper level, as ample space—equipped with locking gates under attendant control—is provided below.

The cars are 15 feet high and 85 feet long. They are of all-stainless steel construction and ride on four-wheel trucks equipped with outside swing hangers. The floor of the upper deck is 8 feet 7 inches above the rails and the center aisle is depressed to give added headroom. Because of this distance from the rails, the cars are expected to give a quieter and smoother ride than conventional equipment.

Passengers enter the cars from the center doors (one being located on each side) stepping directly from the platform level. They hand their baggage to the porter who places it in shelves that run along a center corridor. These shelves will normally be locked enroute. A separate opening on the side of the car (visible in the illustration) will be used to unload baggage at destination thereby leaving the entrance vestibule free for use by passengers. The rest rooms on this level are somewhat larger than those in other Santa Fe streamlined coach equipment.

A curved stairway connects the lower level with the main passenger compartment. There is a water cooler in the curve of the stairway on the upper level or at approximately the mid-point of the upper compartment. All seats rotate and recline and are equipped with adjustable head and leg rests. They are upholstered in foam rubber and covered with blue super needlepoint. Individually controlled reading lights are recessed in a panel along the wall.

The service equipment is accessible from both inside and outside the car thus permitting adjustments and repairs to be made, if necessary, while the cars are in service.

One unit—The two cars will be operated on "El Capitan"—the Santa Fe's all-coach daily streamliner between Chicago and Los Angeles. Because of the special diaphragm design which connects the car floors at the upper level, they will be operated as a semi-permanently coupled unit. The "outer" ends have a stairway down to the conventional level so that they can be connected with existing equipment. If, however, an entire train were composed of such equipment, this transition feature of the outer ends would not be necessary.

FREIGHT CARS

The **Southern Pacific** is inquiring for 500 50-ton automobile box cars.

The **Transportation Materiel Command** has ordered 40 PS-1 box cars from the Pullman-Standard Car Manufacturing Company's Bessemer, Ala., plant.

The **Transportation Materiel Command**, acting as agent for the **Foreign Operati ns Agency**, has ordered 50 50-ton hopper cars from

B&O SPENDS $5 MILLION TO RETIRE TRUST BONDS

The Baltimore & Ohio has purchased for retirement an additional $5 million of its 4% collateral trust bonds recently held by the Reconstruction Finance Corporation; total outstanding now amounts to $55 million. The purchase, which brings to $10 million the total purchased thus far this year, will effect an annual interest saving of $400,000.

A few weeks ago (*Railway Age*, July 5, p. 12) the B&O purchased $4,585,000 of the collateral bonds prior to the RFC sale of the $60 million principal amount then outstanding. Earlier in the year the road retired $415,000 of the bonds under sinking fund provisions. The collateral trust bonds are due January 1, 1965.

Stock of the Buffalo & Susquehanna held by the B&O has been released in conjunction with this reduction in indebtedness. The B&S will be dissolved and the property merged into the B&O system.

The Thrall Car Manufacturing Company for service in Korea.

The **Union Pacific** is inquiring for 500 50-ton box, 300 50-ton tank, and 200 70-ton tank cars.

The **Western Maryland** has ordered 50 PS-2 covered hopper cars from the Pullman-Standard Car Manufacturing Company's Butler, Pa., plant.

LOCOMOTIVES

The **Consolidated of Cuba** has ordered 51 875-hp general-purpose diesel units from the Electro-Motive Division of General Motors Corporation. The new units, largest single export order ever placed for General Motors locomotives, will completely dieselize Consolidated operations by replacing 137 steam locomotives. Deliveries are scheduled to start next November and be completed before mid-1955.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended July 10, which included the holiday, totaled 569,562 cars, the Association of American Railroads announced on July 15. This was a decrease of 49,035 cars, or 7.9 per cent, compared with the previous week; a decrease of 151,892 cars, or 21.1 per cent, compared with the corresponding week last year (which contained no holiday); and a decrease of 2,800 cars, or 0.5 per cent, compared with the equivalent 1952 week which, while containing no holiday, reflected the effects of a steel strike.

Loadings of revenue freight for the week ended July 3 totaled 618,597 cars; the summary compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, July 3

District	1954	1953	1952
Eastern	100,743	110,314	72,846
Allegheny	103,309	129,886	59,242
Pocahontas	20,789	21,514	15,301
Southern	101,056	104,907	86,110
Northwestern	115,341	127,674	54,734
Central Western	121,159	117,301	109,648
Southwestern	56,200	58,677	49,635
Total Western Districts	292,700	303,652	214,017
Total All Roads	618,597	670,273	447,516
Commodities:			
Grain and grain products	66,331	58,403	59,696
Livestock	5,894	5,447	4,626
Coal	29,950	31,793	24,103
Coke	7,149	11,530	3,290
Forest poducts	34,205	41,169	32,391
Ore	72,127	91,737	9,129
Merchandise l.c.l.	61,693	65,835	56,482
Miscellaneous	341,048	364,359	257,799
July 3	618,597	670,273	447,516
June 26	713,160	818,450	646,480
June 19	707,208	812,578	643,969
June 12	697,583	797,252	631,042
June 5	612,315	775,489	684,247
Cumulative total, 27 weeks	16,979,640	19,597,005	18,983,441

Law & Regulation

President Calls for Transport Study

Establishes cabinet committee to review policies and problems and submit recommendations by December 1

President Eisenhower has established a Cabinet Committee on Transport Policy and Organization under the chairmanship of Secretary of Commerce Weeks.

The committee's job is to submit to the President, by December 1, "policy and organizational recommendations covering the whole field of transportation." The recommendations are to be based on "a comprehensive up-to-date review of overall transportation policies and problems."

Review Needed—Such a review, the President said, "is needed as an aid in assuring the overall consistency of government policies and programs concerning particular branches of the transportation industry." Also, he added, "the organization of the federal government to cope with transportation problems should be reviewed."

These comments of the President were in a July 12 letter asking Secretary Weeks to serve as chairman of the committee. The letter, made public at the White House the same day, served also as an announcement that the committee had been established.

Other members are Secretary of Defense Wilson and Director Fleming of the Office of Defense Mobilization. The Postmaster General, the Secretary of Agriculture, and the Director of the Bureau of the Budget will participate "on an ad hoc basis" when matters of interest to their departments are under consideration.

The December 1 deadline for the submission of recommendations was set by the President because he had been informed "that a large fact-finding task will not be required since many studies have been made from which much of the required data can be obtained." The letter also said:

"The vital interests of this nation require that the transportation industry of the United States maintain itself at maximum effectiveness. The government must provide effective leadership in assuring that its policies and program affecting the various forms of transportation, whose services are so necessary to the public and which have such a vital bearing upon the national security, are best designed to aid them in performing fully the roles for which each is best suited.

"Over the past years, studies have been made and recommendations have been presented regarding government programs affecting particular segments of the transportation industry . . . Considerable progress has been made in the past five years in the centralization within the Department of Commerce of major programs affecting transportation. However, a comprehensive up-to-date review . . . is needed . . ."

ICC Clears Way for Piggybacking

Vacates order which suspended tariffs, but continues investigation

The Interstate Commerce Commission on July 9 vacated its suspension of piggyback tariffs, thus paving the way for new trailer-on-flat-car operations by six Eastern railroads.

On June 14 the commission's Division 2 had suspended the proposed schedules and initiated an investigation into the planned t-o-f-c operations, which were to have started June 16.

Railroads involved are the Baltimore & Ohio, the Erie, the Nickel Plate, the Lackawanna, the Pennsylvania and the Wabash.

With the lifting of the suspension, however, the commission served notice that it is continuing its investigation into the tariffs. A hearing in the case remains scheduled for July 27 before Examiner M. L. Boat in Washington.

Railroad Petition—Immediately after the Division 2 suspension was announced, the railroads filed petitions with the commission stating, in effect, that interference with piggyback operations would tend to retard their attempts at providing new modes of transportation service.

They also noted that t-o-f-c was being provided by other railroads under similar tariffs at the very time of the suspension, without commission objection.

Commerce Department Interest—Before it lifted the suspension, the commission received a letter from Robert B. Murray, Jr., undersecretary of commerce for transportation, in which views in line with the railroads' position were expressed.

Mr. Murray, stating his hope that the issue could be resolved "expeditiously," reported to the commission that his department felt the railroads

should be "encouraged" to continue their experiments in the trailer-on-flatcar operation. Attached to his letter was a report of a special panel of the Commerce Department's Transportation Council which recommended that the service "be allowed to develop in an atmosphere of complete freedom," and that "there be no legislative or governmental action at this time."

Panel members were S. M. Felton, president, Shippers' Car Line Corporation, chairman; A. E. Baylis, vice-president, New York Central; W. F. Carey, president, Automobile Carriers, Inc.; M. Forgash, president, Universal Carloading & Distributi..g Co.; C. E. Galston, president, Motor Haulage Company; Kent T. Healy, Yale University; John B. Keeler, consultant, Koppers Company; M. L. Lesnik, vice-president, National Carloading Corporation; C. G. Moore, chairman, Central Motor Freight Association; W. H. Ott, Jr., general traffic manager, Kraft Foods Company; R. O. Small, vice-president, Chicago & North Western; and H. W. Von Willer, vice-president, Erie.

The disputed tariffs publish new class and commodity rates on freight to be transported via piggyback between certain metropolitan areas in the East and the Middle West. The roads involved were said to be fully equipped to begin service June 16 and the vacating order made them free to offer it after one day's notice to the commission.

Opposition to the tariff came from various motor carrier rate bureaus, the Regular Common Carrier Conference of American Trucking Associations and four Brooklyn terminal companies.

Service Begins—Immediately after the suspension order was vacated, the six railroads involved announced the following plans for actual inauguration of the interrupted service:

Baltimore & Ohio—Will begin operation July 20 between Philadelphia and Baltimore on the one hand and Pittsburgh and Chicago on the other; also between Pittsburgh and Chicago and Cincinnati and St. Louis.

Erie—Service begun July 12 between New York and Chicago.

Lackawanna—Service for LCL shipments between New York and Buffalo, begun June 16, was expended, effective July 12, to include trailer loads between New York-Newark and Buffalo, Cleveland and Chicago. Service west of Buffalo operated in connection with Nickel Plate and Wabash to Chicago, and with Nickel Plate to Cleveland.

Nickel Plate—See Lackawanna. Also operates its own service between Chicago, Cleveland and Buffalo.

Pennsylvania—Service between New York (Manhattan, Brooklyn, Jersey City, Newark and Harrison), Philadelphia, Pittsburgh and Chicago inaugurated July 12, with first revenue loads actually moved July 14. Service between Philadelphia and Pittsburgh delayed pending decision on intrastate tariffs by Pennsylvania Public Utility Commission.

Wabash—See Lackawanna. The Wabash also plans its own service, to begin on or about July 23 between St. Louis and Chicago, St. Louis and Detroit, and Chicago and Detroit.

NARUC Wants ICC Out Of Train-Abandonment

Protesting "ICC jurisdiction in this or any like proceeding," the National Association of Railroad & Utilities Commissioners has asked to intervene in a train-abandonment case now before the ICC.

The executive committee of the association authorized the step, taking the position that the railroad's petition "be dismissed or denied for want of jurisdiction."

The train is a commuter run on the New Jersey & New York, operated between Jersey City, N.J., and Spring Valley, N.Y., by the Erie. (*Railway Age*, March 8, page 16).

The NJ&NY was denied authority to abandon the train, No. 613, by the New Jersey Board of Public Utility Commissioners in a ruling later upheld by the state supreme court.

In February the road petitioned the ICC to have it override the New Jersey commission but the plea was denied. A subsequent plea, filed April 29 and claiming that continued operation of the train "results in a substantial financial loss," resulted in the commission ordering its earlier denial vacated.

Investigation into the initial petition was then instituted and a hearing has been scheduled for July 27 at Newark. It is this latter proceeding in which the Railroad & Utilities Commissioners have sought intervention rights.

In Congress

Senate Unit Defers Action On Time Lag and Trip Lease

The Senate Committee on Interstate and Foreign Commerce last week deferred further consideration of the pending time-lag and trip-lease bills until July 21.

The time-lag bill, favored by the railroads, is designed to insure prompt increases in carrier rates as costs rise. The trip-lease bill, opposed by the railroads, would end the Interstate Commerce Commission's power to prohibit trip-leasing of motor trucks.

The former is before the committee a second time, having been recommitted by the Senate as part of maneuvers to make it a hostage for release of the trip-lease bill. (*Railway Age*, May 24, page 13.) Both measures were on the docket of an executive session the committee held July 14, but other matters consumed all available time. Thus the postponement until the July 21 meeting.

Meanwhile, the Senate permitted

Head New ICC Units

As reported in *Railway Age*, June 28, pages 7 and 8, the Interstate Commerce Commission has effected further bureau consolidations. Out of those consolidations have come an office of General Counsel, headed by

E. M. Reidy

A. H. Walter

E. H. Cox

E. M. Reidy, with that title; a Bureau of Inquiry and Compliance, headed by A. H. Walter as director; and a Bureau of Rates, Tariffs and Informal Cases, with E. H. Cox as its director. The accompanying photographs introduce the heads of these three new units.

withdrawal of the pending motion to reconsider the vote by which it recommitted the time-lag bill. Former Senator Butler of Nebraska, who has since died, filed that motion. The withdrawal was effected July 13 pursuant to a request made by Senator Bricker of Ohio, chairman of the Committee on Interstate Commerce.

Labor & Wages

Fireman Issue Halts Ahnapee & Western

The issue of whether or not a short line may operate a diesel locomotive without a fireman has brought to a halt all operations of the 34-mile Ahnapee & Western, and produced a picket line across its sole interchange point—Casco Junction, Wis., where it connects with the Kewaunee, Green Bay & Western.

The A&W normally operates two 70-ton diesels of a type used by many other short lines. The dispute stems from its request to operate these with only one man. The matter has been in dispute with the Brotherhoods of Locomotive Engineers, Locomotive Firemen & Enginemen and Railroad Trainmen for about a year and a half.

A number of short lines have contracts with railway labor organizations which permit them to operate such units with one man. "All we have been seeking is equality with those other short lines," President V. M. Bushman told *Railway Age* in a telephone interview. Mr. Bushman said that, unlike many short lines, the A&W pays full Class I railroad wage scales.

Mediation of the dispute failed June 10 and employees walked off the job two days before the 30-day "cooling off" period had expired—July 9. This, Mr. Bushman said, actually made the walkout illegal and, in consequence, striking employees have been fired. The action, he explained, threw the picket line (across the only interchange) into a new light because it removed all employees represented by the organizations from the property. Supervisory forces have been able to operate over the road, but since no interchange has been possible the road is, in effect, at a standstill.

One of the counter-demands made by the brotherhoods, Mr. Bushman said, was for a minimum work-week guarantee.

F. W. FLANNIGAN NAMED TO HEAD CA&E

Frank W. Flannigan, vice-president and general manager of the Chicago, Aurora & Elgin, has been elected president succeeding E. C. Nagles who resigned on June 29 to return to outside business interests in Kansas. Mr. Flannigan, who has been with the 63-mile suburban carrier for 39 years, says he hopes to restore a "one seat ride" for commuters and eliminate the present terminal transfer arrangement with the Chicago Transit Authority in suburban Forest Park, Ill.

TWENTY-THREE Union Pacific cabooses have been painted white and lettered with this admonition to motorists.

Organizations

Superintendents Meet August 5-6 at Portland

The regular West Coast meeting of the American Association of Railroad Superintendents will be held August 5-6 at the Hotel Multnomah, Portland, Ore.

A panel discussion—"Responsibility of Superintendent of Transportation and Operating Superintendent for Efficient Use of Freight Equipment"—scheduled for the evening of August 5, will highlight the session.

Tentative program is as follows:

AUGUST 5

Morning: Welcome message—Gov. Patterson of Oregon; Charge to Superintendents—C. E. Crippen, general manager—Lines West, Milwaukee, Seattle; Report No. 6—Use of Business Machines for Yard Operations, Record Keeping and Transmission of Information.

Noon: Luncheon—Robert Madsen, assistant to superintendent, Western Pacific, will speak on "Observations on a Three Months' Study of European Railroads."

Afternoon: Report No. 4—Recommended Methods for Conducting Investigations; Report No. 5—Methods and Tools for Clearing Derailments.

Evening: Panel—Responsibility of Superintendent of Transportation and Operating Superintendent for Efficient Use of Freight Equipment.

AUGUST 6

Morning: Report No. 3—What a Superintendent Can Do to Improve Public and Employee Relations; Trip to Timberline Lodge, Mt. Hood. Luncheon en route (cost of trip and luncheon about $4 per person).

W. J. Hedley, assistant chief engineer, Wabash, has been elected president of the **Mississippi Valley Maintenance of Way Club;** E. L. Anderson, chief engineer, St. Louis-San Francisco, first vice-president, and J. L. Loida, chief engineer, Illinois Terminal, second vice-president.

John M. Budd, president of the Great Northern, will be guest speaker at the 108th regular meeting of the **Northwest Shippers Advisory Board,** at Duluth, July 28-29. Mr. Budd will speak at the noon luncheon session on July 29, which will be held jointly with the **Duluth-Superior Transportation Club.**

Operations

Bad Pinion Bearing Caused "Rocket" Derailment

Derailment of the Rock Island's "Rocky Mountain Rocket" on June 25 near Hallam, Neb., was caused by failure of the armature roller bearing on the pinion end. Investigation at the road's Silvis, Ill., shops disclosed that this bearing failed on the lead truck of the second unit of the three-unit locomotive, causing the armature shaft, and consequently the pinion (driving) gear, to lock in place, which in turn locked and slid the corresponding driving wheels.

Initial cause of the bearing failure could not be determined. A roller could have broken, or it could have been a failure of the grease, the retainer or any other part of the bearing. How far the train traveled after the drivers locked could not be told but it was sufficient to cause flat spots 10 in. long on the slid wheels. Disciplinary action was taken against the train crew and the Hallam station agent.

Securities

Illinois Central Would Sell $25 Million of Bonds

The Illinois Central has requested Interstate Commerce Commission authority to issue and sell $25,000,000 of first mortgage, 26-year, series G bonds. Proceeds from sale of the bonds, with other funds, would be used to redeem next September 1 the entire $25,000,000 issue of consolidated mortgage 30-year, 4¼% series D bonds, due June 1, 1982. The new bonds would be dated August 1, 1954, and would bear interest at a rate to be specified in the accepted bid (which is not expected to exceed 3½%).

Akron, Canton & Youngstown.—*Stock Split and Option Plan.*—This road has been authorized by the ICC to issue 114,935 shares of no-par common stock to be exchanged on a 5-for-1 basis for 22,987 shares of $100-par stock. The plan also calls for issuance of 5,740 shares of $100-par, 5% preferred stock to be exchanged on a share-for-share basis for present preferred—solely for the purpose of noting on the new shares a change in voting rights. The change will maintain the preferred's relative voting rights by giving each share five votes instead of one. Division 4 also has approved issuance of 12,500 additional shares of the new common to be sold to AC&Y officers and supervisory employees under a stock option plan.

Application

NORTHERN PACIFIC.—To assume liability for $5,220,000 of equipment trust certificates to finance in part the following cars, costing an estimated total of $6,531,175:

	Description and Builder	Estimated Unit Cost
225	40-ft refrigerator cars (Northern Pacific Shops)	$ 9,500
7	dome sleepers (Budd Company)	278,100
6	sleepers (Pullman-Standard Car Manufacturing Company)	216,000
50	50-ft mechanical refrigerator cars (Pacific Car & Foundry Co.)	23,020

The certificates, to be dated August 10, would mature in 15 annual installments of $348,000 each, beginning August 10, 1955. They would be sold by competitive bids with the interest to be determined by such bids.

Authorizations

CHICAGO, BURLINGTON & QUINCY.—To assume liability for $7,350,000 of equipment trust certificates to finance in part equipment costing an estimated $9,278,000 (*Railway Age*, June 14, page 77). Division 4 approved sale of the certificates with a 2⅝% interest rate, for 99.808—the bid of Salomon Bros. & Hutzler and three associates—which will make the annual cost of the proceeds to the road approximately 2.65%. The certificates, dated July 1, would mature in 30 semiannual installments of $245,000 each, beginning January 1, 1955. They were reoffered to the public at prices yielding from 1 to 2.75%, according to maturity.

DONORA SOUTHERN.—To issue notes in the amount of $150,000 to its parent company, United States Steel Corporation. The notes, payable on demand, are to bear noncumulative interest at 4%, if earned.

GAINESVILLE MIDLAND.—To issue secured promissory notes for $85,000 to the Seaboard Air Line to finance in part the purchase of rail and track material. The notes are to be dated July 1 and, bearing interest at 4%, will be payable in 10 semiannual installments beginning January 1, 1955.

LAKE TERMINAL.—To issue an unsecured promissory note for $225,000 to its parent company, United States Steel Corporation. The note, payable on demand, will bear interest at 4%, if earned.

Security Price Averages

	July 13	Prev. Week	Last Year
Average price of 20 representative railway stocks	69.15	67.69	64.03
Average price of 20 representative railway bonds	95.31	95.04	89.86

Dividends Declared

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—$5, semiannual, payable July 31 to holders of record July 9.

NORTHERN OF NEW HAMPSHIRE.—$1.50, quarterly, payable July 31 to holders of record July 15.

Abandonments

Seattle Skagit.—This line, operated by the city of Seattle from a junction with the Great Northern at Rockport, Wash., to the city's Skagit hydroelectric project, is to be abandoned, its rolling stock and rails sold, and an 8-mile portion, between Newhalem and Diablo, of its 31-mile right-of-way converted to a highway. The railroad, begun in 1919 and completed in 1927, was not a common carrier, but was possibly unique in the variety of its motive power—steam, electric and diesel-electric locomotives; gasoline-powered self-propelled passenger coaches; a 68-deg inclined plane which raised freight cars 313 ft over Diablo dam; a tugboat-hauled car barge on Diablo lake; and a winch and cable which hauled cars from the barge to the terminal yard at Ross powerhouse.

Authorizations

ALTON & SOUTHERN.—To abandon 2 miles of its line in St. Clair county, Ill. No traffic has moved over the segment since 1950.

CHICAGO & NORTH WESTERN.—To abandon a 2-mile branch line in the vicinity of St. Peter, Minn.

CHICAGO, BURLINGTON & QUINCY.—To abandon 8.2 miles of branch line from a point near Zearing, Ill., to Kasbeer.

Supply Trade

Ralph C. Alexander has been named district sales manager at Cleveland for the **Rail-Trailer Company.**

J. Gibson Brown, assistant to vice-president—operations of the **United States Steel Supply Division, U.S. Steel Corporation,** at Chicago, has been appointed assistant vice-president—engineering.

RICHARD H. FROST, formerly assistant to president, National Pneumatic Company, has been elected executive vice-president and a director.

H. F. COLT, JR., manager of the Air Reduction Sales Company's El Paso, Tex., district, has been appointed zone manager, eastern region, of the railroad department. Mr. Colt replaces S. S. Bruce, Jr., recently appointed manager of the firm's Chicago district office, and will have headquarters in Philadelphia.

George L. Read, sales engineer in the export department of **Bucyrus-Erie Company,** has been appointed Canadian sales manager, at Toronto.

Art Youwer has joined the transportation division of **Minneapolis-Honeywell Regulator Company** as service engineer in the Chicago office. He was previously mechanical inspector for **Pullman-Standard Car Manufacturing Company.**

William Irrgang, executive vice-president of **Lincoln Electric Company,** has been elected president and general manager. **James F. Lincoln,** elected chairman of the board, will remain active in direction of company policies.

OBITUARY

Guilford S. Turner, president of the T-Z Railway Equipment Company, at Chicago, died July 12 at his office in that city.

Financial

M&StL Merger Rumors "Speculative"—Heineman

"There have been numerous rumors about merger of your company with one or more other companies," Ben W. Heineman, chairman of the executive committee of the Minneapolis & St. Louis, told that railroad's stockholders in a recent letter. Describing the rumors as "conjectural and speculative," he went on to tell share-

holders that directors and officers would not be able to keep them advised of "any preliminary studies or conversations," but that they would be "informed of any developments as promptly as possible."

Economies "amounting to more than $1 million a year" have been put into effect by the new management, Mr. Heineman also told shareholders. He gave "great credit to what has been accomplished" to President John W. Devins; said the new economies were reflected for the first time in June operating results, and "hoped and believed" further economies would be made within the next few months.

ALLEGHANY CAN VOTE 600,000 CENTRAL SHARES

Alleghany Corporation has voting rights to 600,000 shares of the New York Central stock which was acquired by Clint W. Murchison and Sid W. Richardson, friends of Robert R. Young, during Mr. Young's successful fight for control of the road.

This was revealed last week in Alleghany's answer to the Interstate Commerce Commission's order calling upon Alleghany to show cause why it should not slough off the carrier status it acquired under a 1945 commission order which approved its control of the Chesapeake & Ohio (*Railway Age*, July 12, page 66). As a preliminary to its participation in the NYC fight, Alleghany divested itself of control of C&O.

Messrs. Murchison and Richardson acquired their NYC stock from C&O, their total acquisitions amounting to 800,000 shares. It is understood that Alleghany's president, Allan P. Kirby, has taken over 200,000 shares.

As to the other 600,000 shares, the Alleghany reply to the ICC order revealed that Alleghany and Messrs. Murchison and Richardson are parties to "joint agreements" under which Alleghany has "an undivided one-half interest" in the 600,000 shares and the right to vote them. "By these agreements," the statement added, "Alleghany receives half of all profits on the sale of the 600,000 shares, is guaranteed against loss, and is guaranteed 4½% on all money invested."

As to its carrier status, Alleghany took the position that it should be continued. It interpreted Mr. Young's victory as its own acquisition of control of NYC and the latter's subsidiaries. It also noted that the 600,000 shares it has the right to vote represent almost 10% of NYC's common. Alleghany's relationship to NYC, the statement also said, "is in all material respects the same as its relationship to the C&O . . . was on June 5, 1945." That was the date of the commission order which gave Alleghany its carrier status.

Railway Officers

CHESAPEAKE & OHIO.—M. I. Dunn, vice-president—construction and maintenance, has announced the consolidation of the construction and maintenance department on a system basis, and discontinuance of operations on a district basis. Two regions have been established to replace the previous district organization. The Southern region, including all the former Chesapeake district, except the Hocking division and the Walbridge-Toledo Terminal, will be under direction of **L. T. Nuckols,** chief engineer—Southern region at Richmond, Va. The Northern region, including all the Pere Marquette district plus the Hocking division and Walbridge-Toledo Terminal, will be under direction of **T. F. Burris,** chief engineer—Northern region at Detroit.

Operations of both Chesapeake and PM districts have been consolidated under **C. A. Taylor,** recently named vice-president—operations for the system. **C. J. Milliken,** assistant general manager of the PM district at Detroit, has been appointed general manager of the newly organized Northern region. **Robert Vawter,** general manager of the Chesapeake district, will be general manager of the newly organized Southern region.

K. T. Reed, assistant general superintendent at Covington, Ky., has been appointed assistant general manager—Northern region at Detroit.

COTTON BELT. — Elmer P. Becker, general agent at Detroit, has been appointed assistant traffic manager at Chicago, succeeding **W. C. Huxhold,** deceased (*Railway Age*, June 21, page 12). **John F. Russell** has been named general agent at Cleveland, to succeed **J. W. Dulaney,** who replaces Mr. Becker at Detroit. **F. L. Crawford** has been appointed general agent at Chicago.

MISSOURI-KANSAS-TEXAS. — O. H. Griffin, assistant freight traffic manager at Dallas, Tex., who has been promoted to the executive staff as assistant to president at Houston, Tex., succeeding Columbus Haile, retired.

The office of **H. F. Becker,** auditor freight accounts, has been moved from St. Louis to Tyler, Tex., and all freight accounting matters should be referred to him at Tyler. All matters pertaining to reconsigning of cars, heretofore handled by Mr. Becker, will be handled by **J. L. Cook,** general traffic manager at St. Louis.

DENVER & RIO GRANDE WESTERN.—H. W. Bushacher, auditor of disbursements accounting at Denver, has been advanced to assistant comptroller, succeeding **L. L. Prater,** who has been named to the new position of auditor of revenue there. Succeeding Mr. Bushacher is **C. E. Hightower,** accounting supervisor, who in turn is replaced by **T. E. Klodt,** assistant accounting supervisor.

NEW HAVEN.—Paul R. Goulett, assistant vice-president of operation, has been appointed vice-president in charge of operation at New Haven. Mr. Goulett was born at Monroe, Conn.,

Paul R. Goulett

June 9, 1896, and entered the service of the New Haven in May 1911 as spare telegraph operator. He became assistant vice-president in January 1953.

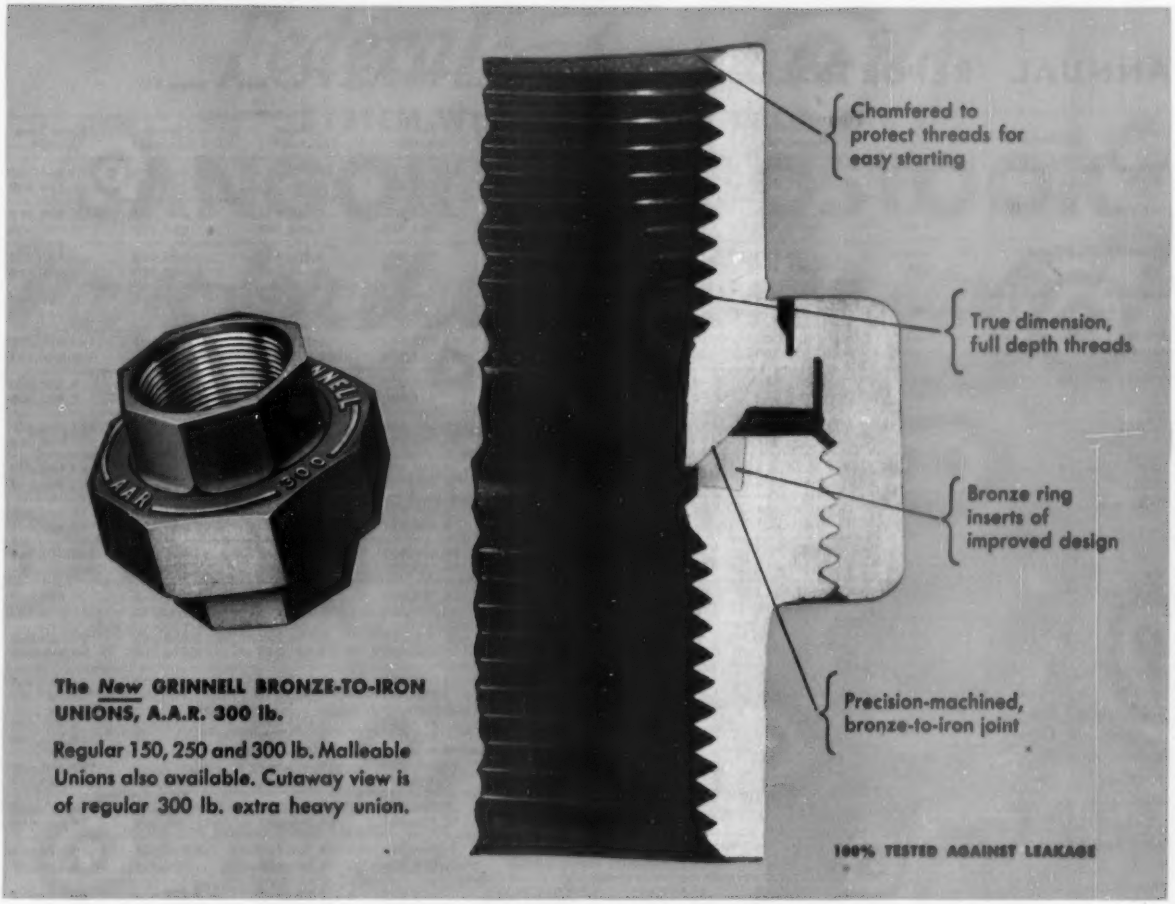
NEW YORK CENTRAL—Martin J. Alger, staff vice-president since 1953, and prior to that traffic vice-president, nas retired under the road's pension plan, after 45 years of service, including 20 as a vice-president.

Gregory W. Maxwell, general superintendent of the New York district, has been appointed general superintendent, Lines West, at Cleveland, succeeding **Ernest C. Johnson,** who has been named general manager of the Michigan Central at Detroit (*Railway Age*, June 28).

S. C. Morse has been named supervisor of diesel records at Cleveland.

SOUTHERN PACIFIC.—W. K. Clark has been appointed assistant to passenger traffic manager at Houston,

(*Continued on page 38*)



The *New* GRINNELL BRONZE-TO-IRON UNIONS, A.A.R. 300 lb.

Regular 150, 250 and 300 lb. Malleable Unions also available. Cutaway view is of regular 300 lb. extra heavy union.

Here's the inside story behind the *new* GRINNELL A.A.R. UNIONS

Cut-away view of the *new* Grinnell bronze-to-iron union reproduced here is *exactly as photographed.* It has not been retouched in *any* way.

The "inside story", as told by the camera, points up the engineering achievement that makes the *new* Grinnell bronze-to-iron union a standard of comparison for the industry.

What the camera cannot show you is the Quality Control which goes into the *new* Grinnell Unions. For instance: each union is tested against leakage by applying air pressure under liquid.

High quality materials, completely new, modern manufacturing machinery, and highly skilled personnel are employed in the manufacture of the *new* Grinnell unions. Branch warehouses and distributors, from coast to coast, make local stocks as convenient as your telephone.

Features of the *new* Grinnell bronze-to-iron unions:

- Precision-machined, bronze-to-iron joint for a positive, leak-proof connection
- 100% tested with air under liquid
- Bronze ring inserts of improved design — bonded to iron by newly developed equipment
- True dimension, full depth threads
- Chamfered to protect threads for easy starting
- Designed for rugged service

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ANNUAL REPORTS (Supplementing lists published in *Railway Age*, April 5, page 82, and May 3, page 17)

Railroad		Operating Revenues	Operating Expenses	Fixed Charges	Net Income	Current Assets*	Current Liabilities*	Long Term Debt*
Alabama Great Southern	1953	$19,861,576	$14,020,416	$ 322,185	$3,848,774	$6,978,658	$7,696,478	$10,442,700
	1952	19,737,823	14,518,193	340,280	2,894,378	6,834,303	8,374,975	11,174,300
Ann Arbor	1953	9,443,256	7,210,996	240,732	797,869	3,772,774	1,397,683	6,324,015
	1952	7,628,363	6,399,708	250,467	714,319	3,066,598	984,720	6,705,506
Atlanta & West Point	1953	4,508,290	3,749,273	34,378	286,830	2,360,168	929,978	1,145,450
	1952	4,555,492	3,683,972	27,431	290,911	2,676,742	1,102,320	1,366,510
Atlantic & Danville	1953	1,884,759	1,479,542	8,602	25,638	500,395	412,569	2,781,469
	1952	1,891,074	1,500,610	10,387	9,593	565,638	402,359	2,943,477
Atlantic Coast Line	1953	164,579,094	140,646,068	6,611,800	12,028,993	54,232,531	26,567,503	183,971,071
	1952	169,945,396	138,626,621	6,301,130	17,325,674	61,235,437	33,371,998	176,076,937
Chicago & Illinois Midland	1953	9,051,186	6,430,873	144,900	862,973	4,049,814	3,266,034	1,700,000
	1952	7,011,049	5,407,120	144,900	374,880	3,740,237	2,339,064	2,150,000
Chicago, Burlington & Quincy	1953	278,413,811	203,124,367	6,286,281	25,661,506	93,000,580	57,021,944	217,399,396
	1952	270,347,779	193,435,959	5,774,160	28,000,592	94,352,331	58,984,279	197,938,264
Clinchfield	1953	24,279,215	14,668,203	2,470,301	4,748,508	6,318,282	16,005,380	14,208,650
	1952	24,228,995	13,843,968	2,400,900	6,991,108	7,412,117	16,068,246	13,553,970
Colorado & Southern	1953	16,279,128	11,108,415	152,151	2,201,930	7,661,096	5,067,117	18,949,292
	1952	16,304,001	11,269,013	264,499	2,430,273	7,034,885	5,095,019	17,337,848
Erie	1953	181,505,236	136,382,758	5,184,393	12,581,603	45,099,073	33,812,250	196,125,268
	1952	176,459,018	134,941,169	5,278,920	13,223,521	45,447,547	32,329,956	205,526,733
Florida East Coast	1953	32,897,694	26,118,594	2,835,964	1,757,070	23,441,634	2,350,910	61,886,002
	1952	33,914,821	26,102,569	2,757,431	789,784	21,759,426	2,676,342	61,940,757
Fort Worth & Denver	1953	22,972,754	16,622,103	1,117,562	1,725,844	6,756,209	4,896,694	23,693,008
	1952	23,991,060	16,711,540	1,208,108	2,238,400	7,957,047	5,072,751	21,051,602
Georgia	1953	9,623,473	7,808,415	714,155	1,025,295	3,817,053	1,272,835	16,584,769
	1952	9,701,821	7,837,614	684,376	1,009,841	3,803,239	1,270,182	16,159,307
Georgia Southern & Florida	1953	9,916,815	6,290,702	320,284	417,697	5,227,544	2,167,575	6,422,503
	1952	9,196,552	5,565,866	320,406	615,097	5,207,422	2,154,435	6,314,248
Great Northern	1953	268,034,981	194,883,917	8,060,361	29,942,607	107,367,517	52,307,243	268,088,491
	1952	260,247,470	191,415,640	7,969,702	27,704,659	99,748,286	50,889,756	267,807,013
Gulf Coast Lines	1953	43,216,715	33,445,390	2,932,520	2,757,368	15,517,207	9,848,458	70,187,067
	1952	44,339,778	32,888,619	2,886,024	2,723,103	16,959,003	11,764,399	70,642,339
Indianapolis Union	1953	833,915	3,727,152	190,158	304,215	1,735,715	1,059,819	5,530,156
	1952	826,647	3,679,363	193,462	297,596	1,561,932	940,323	5,739,126
International-Great Northern	1953	37,237,215	31,559,452	3,029,317	1,018,944	10,850,492	8,222,553	60,037,417
	1952	38,204,422	31,583,805	2,938,874	970,185	13,367,761	9,381,657	58,129,301
Lake Superior & Ishpeming	1953	4,962,393	3,175,649	39,659	941,197	3,149,742	1,555,136	1,063,350
	1952	4,041,602	2,761,417	none	759,559	3,376,551	1,202,492	none
Long Island	1953	55,855,030	47,991,258	2,236,920	2,704,590d	13,233,522	24,694,418	59,278,038
	1952	53,836,772	46,968,240	2,162,470	5,009,658d	18,116,446	35,952,488	58,444,196
Midland Valley	1953	2,505,092	1,664,999	115,631	235,798	1,231,983	532,055	3,813,500
	1952	2,083,923	1,712,616	102,931	97,362	1,466,787	626,659	4,254,000
Missouri Pacific	1953	238,261,929	194,135,903	17,973,438	10,771,491	89,257,977	31,812,725	384,576,743
	1952	248,490,855	191,866,806	17,861,584	14,939,181	103,105,875	39,852,596	383,915,356
Monongahela	1953	7,726,270	4,687,090	512,751	245,671	1,939,298	1,325,067	11,047,504
	1952	7,609,851	4,935,821	486,982	85,218	1,334,847	1,049,927	10,176,340
New Orleans & Northeastern	1953	13,629,742	6,914,119	20,812	2,632,799	6,198,699	6,444,552	836,960
	1952	12,620,903	6,778,063	27,675	1,930,422	12,260,149	6,131,909	1,161,440
New York, Chicago & St. Louis	1953	167,364,177	113,860,335	5,252,349	17,866,796	61,708,344	39,591,169	146,663,230
	1952	162,727,217	109,794,217	5,037,412	18,802,703	51,469,630	39,922,935	138,792,750
Norfolk & Western**	1953	189,560,268	136,449,628	1,432,265	28,077,419	81,203,104	41,155,663	35,791,700
	1952	195,650,566	138,580,357	1,522,341	29,300,910	89,385,869	48,082,793	35,791,700
Ontario Northland	1953	13,403,545	12,038,879	465,080	695,767	8,823,288	5,658,995	14,634,000
	1952	14,123,116	11,858,986	324,622	1,706,854	4,828,102	2,484,578	11,327,000
Pittsburgh & West Virginia	1953	8,984,016	6,844,560	510,408	965,743	4,882,845	1,733,237	12,558,084
	1952	8,510,028	6,679,522	498,564	923,168	5,095,702	1,902,326	12,433,356
Richmond, Fredericksburg & Potomac	1953	27,496,776	18,743,751	142,294	3,296,036	10,223,227	5,177,509	4,299,928
	1952	28,152,570	18,095,836	160,323	4,225,048	10,998,198	5,920,934	5,065,765
Southern	1953	275,212,345	186,399,730	13,201,933	33,190,324	138,756,693	79,775,662	273,778,525
	1952	271,624,396	188,102,101	12,974,541	27,834,915	121,442,901	80,337,097	274,599,155
Tennessee Central	1953	5,159,228	4,041,573	326,021	108,499	1,784,702	1,495,573	8,566,937
	1952	5,494,700	4,056,944	285,111	221,354	2,127,078	1,609,162	7,808,501
Texas & Pacific	1953	86,485,104	59,568,115	3,153,138	11,030,409	35,622,893	14,047,272	76,199,163
	1952	83,625,516	56,703,864	3,240,444	11,655,792	35,866,801	15,280,437	82,207,790
Toronto, Hamilton & Buffalo	1953	6,019,817	3,684,361	121,533	1,196,366	5,103,725	2,013,670	4,150,000
	1952	6,754,786	3,468,108	81,894	1,502,411	6,247,652	2,554,346	2,400,000
Western of Alabama	1953	4,806,389	3,641,682	81,261	527,331	2,428,208	949,295	2,011,132
	1952	4,712,172	3,626,491	77,773	461,520	2,255,187	927,618	1,849,900
Western Maryland	1953	50,658,713	33,787,855	2,994,533	7,674,025	20,820,394	13,944,680	66,509,359
	1952	47,559,386	33,471,740	3,155,208	5,750,070	18,518,301	13,746,172	60,561,256
Western Pacific	1953	59,244,506	39,981,658	1,006,148	7,513,446	30,218,175	16,011,054	32,476,229
	1952	56,244,555	38,796,996	1,007,219	6,078,668	33,209,103	13,616,883	33,744,713

* On December 31. d Deficit. ** Reprinted because of error when originally published (*Railway Age*, May 3, page 17).

Federal-Farnsworth

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BANGOR & AROOSTOOK

Pays for itself in time saved!

Federal-Farnsworth equipment in 47 locomotives and 12 fixed stations provides fast, dependable communication from dispatchers through yardmasters and station agents at wayside stations to engineers, conductors and brakemen and between moving trains!

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The Bangor & Aroostook Railroad Company not only pioneered train radio in New England, but was one of the first U. S. railroads to employ it extensively.

Following initial tests that indicated a time-saving with radio, the B.A.R. installed Federal-Farnsworth equipment over its entire system.

Biggest single time-saver is getting trains into and out of busy yards. Crews receive switching orders via dependable, all-weather radio . . . trains keep moving . . . no waiting to pump up air brakes.

Information on hot boxes, brake rigging down, shifted loads and other causes of delay is flashed between head and rear, between moving trains and wayside stations . . . preventing costly rough stops.

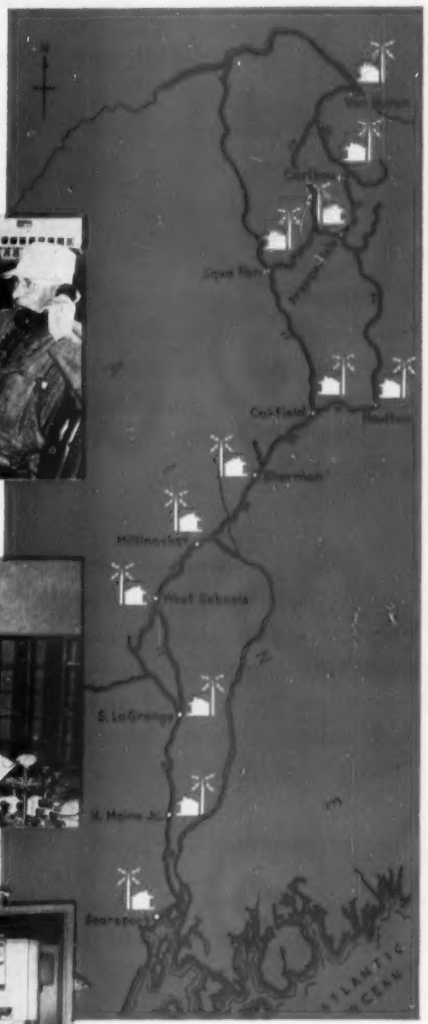
The B.A.R. finds radio invaluable for signaling in bad weather, at night and on curves . . . for all emergency calls.

"Radio simplifies and speeds-up yard operation," says management. "It expedites movement over the entire road, reduces crew overtime, saves fuel and improves service to our shippers."

Today, Federal-Farnsworth yard, wayside, locomotive and caboose radio units are standard equipment on major railroads here and abroad...serving high-speed main lines, heavy freight routes and other operations . . . amply demonstrating that America's pioneer "built-for-the-purpose" system provides *flexibility* to meet any railroad requirement.

Enginemen, in their diesels, can communicate with . . .

Station agents, operators and yardmasters at fixed stations...



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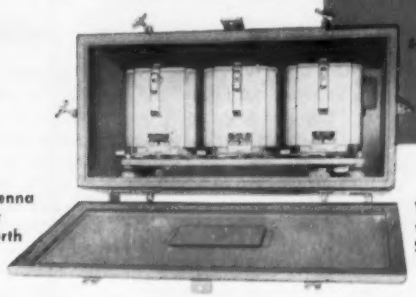
Loud Speaker

"Firecracker" Antenna Developed by Federal-Farnsworth



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Questions and Answers FOR THE TRANSPORTATION DEPARTMENT

Can you expedite the handling of six cars of explosives and still comply with current regulations?

A train arriving at the Clearing (Chicago) yard of the Belt Railway of Chicago, for classification, has in it six cars carrying "EXPLOSIVES" placards. All six cars are destined to Belt connections, as follows: Two for the New York Central at South Chicago; two for the Chesapeake & Ohio at Rockwell street (old Pere Marquette district); one for the Chicago & Eastern Illinois at 87th street; and one for the Milwaukee at Bensenville.

When the Belt's yardmaster sizes up his situation, he finds that, including the explosives cars, he has 50 cars for the run to the NYC at South Chicago; 22 for the C&O at Rockwell street; 11, in two blocks, for the C&EI at 87th street; and six for the Bensenville run, which picks up and sets out at three points.

Question: Can the Belt's yardmaster dispatch the explosives in these runs, and comply with regulations, or must he hold some of the cars for later movements?

[This is a subject which should be of particular interest to superintendents, trainmasters and their assistants, yardmasters, et al. Send us your answers. We will publish ours in the issue of September 13, along with the names of those persons who supply correct answers.

[Transportation or operating officers who may desire to reprint this quiz for distribution to employees may do so without further permission.—*G.C.R.*]

A railroad doing its car accounting mechhanically sends junction reports to owners, showing a code number in the "marks" column. Is this permissible?

No. Initials must be shown.

It is not permissible under Per Diem Rules 9 and 10 to use code numbers instead of initials when preparing junction reports.

The rules provide that the column headed "marks" should be filled in. Code Numbers could not be interpreted as "marks" for railroad or private line cars.—*Eastern Association of Car Service Officers.*

•

Can a company with two plants at one station operate under an average demurrage agreement at one of them, and under the straight demurrage plan at the other?

No. The company must choose one type of agreement.

No. The first sentence of Demurrage Rule 9, Section G, Paragraph 1, states: "An average agreement must include all cars loaded or unloaded within the jurisdiction of the same station. . ." The fact that the rule also provides that the industry may have separate average agreements for each plant, or one average agreement for both plants, does not nullify the opening sentence quoted.—*Eastern Association of Car Service Officers.*

•

A pipe line company leased ground from a railroad for storing pipe, which was to be unloaded directly from cars to the leased ground. As requested, the railroad's agent notified consignee by telephone at its office in another city of cars' arrival, but $72 demurrage accrued before cars were released. No written notice of arrival was given. Is the demurrage properly chargeable?

Yes. This was not a public delivery track.

Yes. While the lease of ground to the consignee did not specifically mention the track, the very purpose of the lease was to provide space upon which pipe might be unloaded direct from cars. The location of the track precluded its being available for any other consignee's use. The track abutting the leased property is "a railroad track or portion thereof assigned for individual use" and constitutes an "other-than-public-delivery-track" as referred to in Item 20-c of the demurrage tariff. No written notice of arrival is required under these circumstances.—*Western Weighing & Inspection Bureau.*

[This question was submitted by an agent of a Western line in response to the announcement in the May 10 issue, that we would pay $5 for questions submitted by readers and used by us. How about some more?—*G.C.R.*]

CONDUCTED BY G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, *Railway Age*, 30 Church Street, New York 7.

since 1939...the 5

IMPORTANT IMPROVEMENTS IN TRACTION MOTOR BEARINGS WERE PIONEERED BY SKF

Pinion End Bearing with M-2 Roller Riding Cage. Disassembly for inspection is easy—just slide out the inner ring; you can then move the rollers out of the outer ring groove, and rollers and M-2 Cage slide right out. Reassembly is just as easy.

SKF Commutator End Traction Motor Bearing. Crowned rollers provide maximum capacity. Armature is positively stabilized and held in proper position in the motor frame. Has M-2 Cage—same as pinion end bearing—for easy disassembly and inspection.

Here they are—the 5 most significant improvements in traction motor bearing design, all pioneered by SKF. . .

1939 - The use of crowned rollers provided significant increases in ***capacity.***

1943 - Assisted Railroads in developing "sealed-grease lubrication."

1945 - SKF's "High Capacity" design provided still more capacity in the same space. Larger, longer rollers again increased capacity without requiring more space.

1948 - Improved cage design permitted easy disassembly and reassembly for inspection of all parts.

1952 - SKF's M-2 Cage Design, applied to ***both*** pinion end and commutator end bearings, further facilitates disassembly and reassembly. Sealed grease lubrication now permits running up to 500,000 miles without relubrication.

Today's SKF Traction Motor Bearings are the result of these milestones of design initiative—incorporating each of these technological advances to allow for a greater capacity and a reduction in maintenance costs.

Depend, as always, on SKF's leadership; depend, as usual, on SKF's uniform quality.

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TRACTION MOTOR BEARINGS

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With modern equipment, convenient schedules and attractive fares, you *can* win them back to the rails and keep them there. The Budd Company, Phila. 15.

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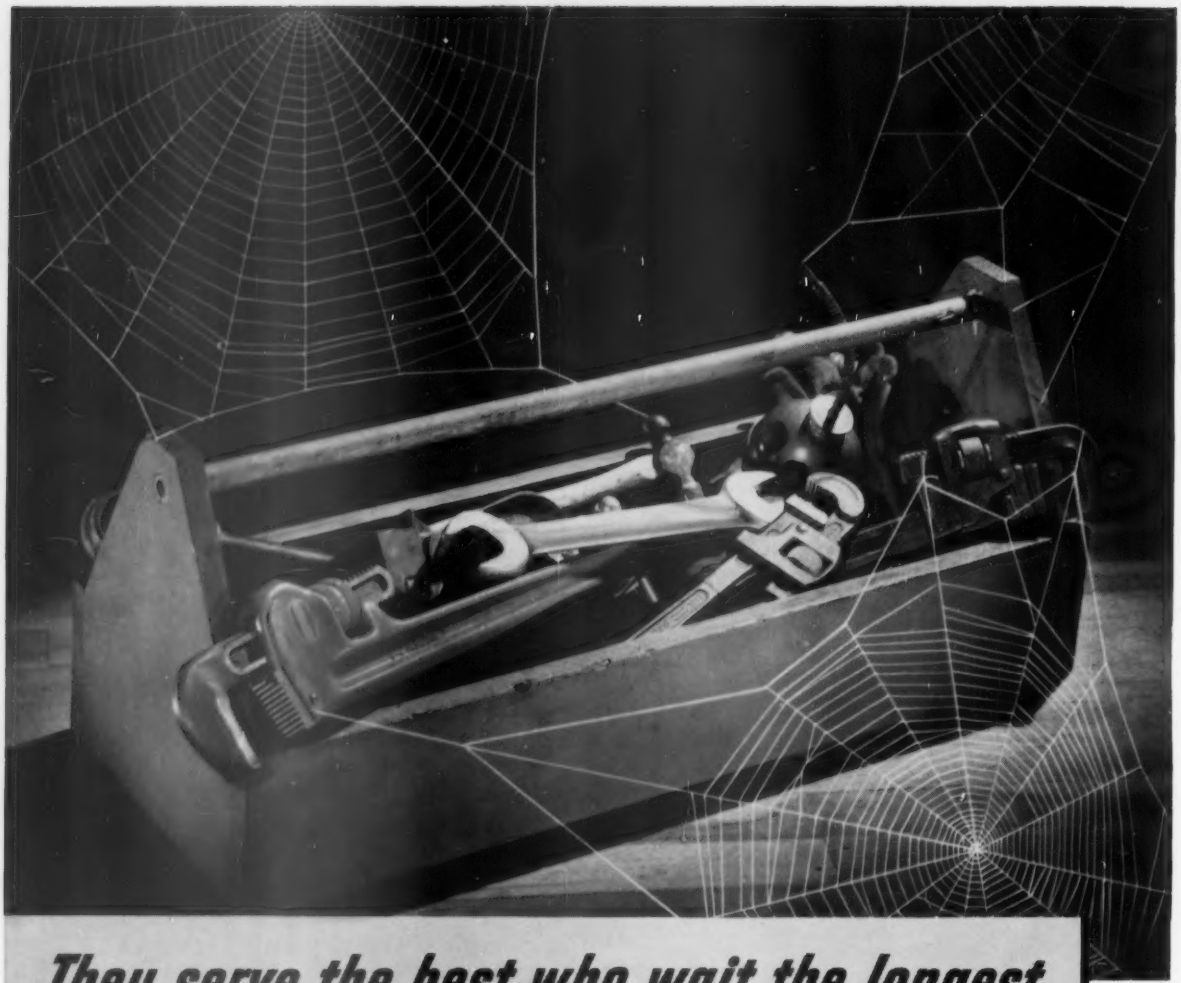

They serve the best who wait the longest

Here's one place where cobwebs would be strictly OK—on a piping maintenance man's tools. For the less they have to work, the lower your maintenance costs.

Excessive valve maintenance is serious simply because the average plant has so many valves. So it's sound economics and good business to buy quality and low maintenance rather than "bargains" and frequent maintenance.

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If Pricing Can't Be "Planned," What Then?

It is very doubtful if there is anybody in the transportation business—including not only railroad men, but shippers and regulators as well—who knows enough about transportation charges and costs to be able to say with final authority just what specific rates would be the most economic for the major movements of railroad traffic—to say nothing of the myriads of minor movements. Yet there isn't any more pressing problem confronting the railroads—and, of course, their patrons and regulators—than the economic pricing of railroad service. Traffic is divided among the various agencies of transportation—not on the basis of their relative intrinsic economy, but in accordance with the relative rates they charge. Hence, if railroad rates, or the rates of other agencies, do not reflect comparative economy of service, traffic is inevitably going to be diverted from more-economical to less-economical channels.

The problem of establishing economic prices for railroad service is complicated by the fact that conditions surrounding the railroads have in recent years changed so much faster than the understanding, even of most of the experts, has progressed. There used to be reasonably general agreement on an approach to (or "theory" of) railroad rates. This approach, or theory, might be stated in oversimplified form, somewhat as follows: *Specific railroad rates should not be unduly discriminatory as to persons, places, or commodities—nor should any rate be so high as to discourage movement, nor so low as to constitute a burden on other traffic. And the rate structure as a whole should provide the railroads, on the average, with earnings large enough, and no more, to give them financial resources sufficient to maintain adequate service for the public.*

There isn't anything intrinsically erroneous with this theory except that so much emphasis has been given to avoidance of discrimination, or even of differential pricing based on cost differences, to a degree which has largely ignored the existence of competition. Rates which are hypersensitive to discrimination, but which serve mainly to drive traffic to agencies which discriminate freely, cannot be considered successful rates. Basing rates largely on ability to pay or on any other concept which ignores competition does not protect either the shippers' interest in economical transportation service, or the railroads' interest in adequate earnings.

The railroads' rivals are largely free of regulation—and can, thus, compete successfully for such movements as the railroads price relatively high in relation to actual costs of performance, while leaving the railroads with only that traffic on which their profit margin is low. Continued rigidity of railroad pricing, in the face of such unregulated competition, tends increasingly to deprive the railroads of high-volume traffic. And it is only with relatively high volume that railroad service is truly economical. If 100 trucks move down a highway, the cost of operating the 100 trucks is 100 times the cost of moving one truck—but, if 100 cars move in a train, the cost of moving all 100 cars is but very little more than the cost of moving a single car.

Faced with this perplexing situation, some people have come along with what may seem to be an easy answer. They say: *Let the railroads base their rates on their costs.* But what are these costs? Are they the "average costs" of all railroads for all traffic? If so, then specific railroads would be required to "price themselves above the market" on a lot of specific movements, where their costs are lower than the average. Rates based on "average costs" will never give the railroads an opportunity to bid for all the traffic to which they have an economic claim—against rival claimants who do their bidding on costs which are specific and not "average."

There is a highly significant article in a recent issue of the Harvard Business Review, entitled "Let's Get Cost Pricing Out of Our Laws." The author is opposed to such price-maintenance measures as the Robinson-Patman Act. He seems, however, to believe that "cost-plus" pricing is all right for regulated monopolies—in which category, presumably, he still classifies the railroads. Our own inclination is toward the belief that transportation is now as fully competitive as any businesses under the Robinson-Patman Act.

In any event, the transportation business is not going to get out of the present chaos until a lot more people have done a lot more hard thinking on this question than they have done yet. Regulation, like socialism, is "planning"; and it won't work unless there are a lot of brilliant people who will work hard at the planning job. The advantage of completely free competition is that it will work, with at least reasonable satisfaction, without so much brain power.

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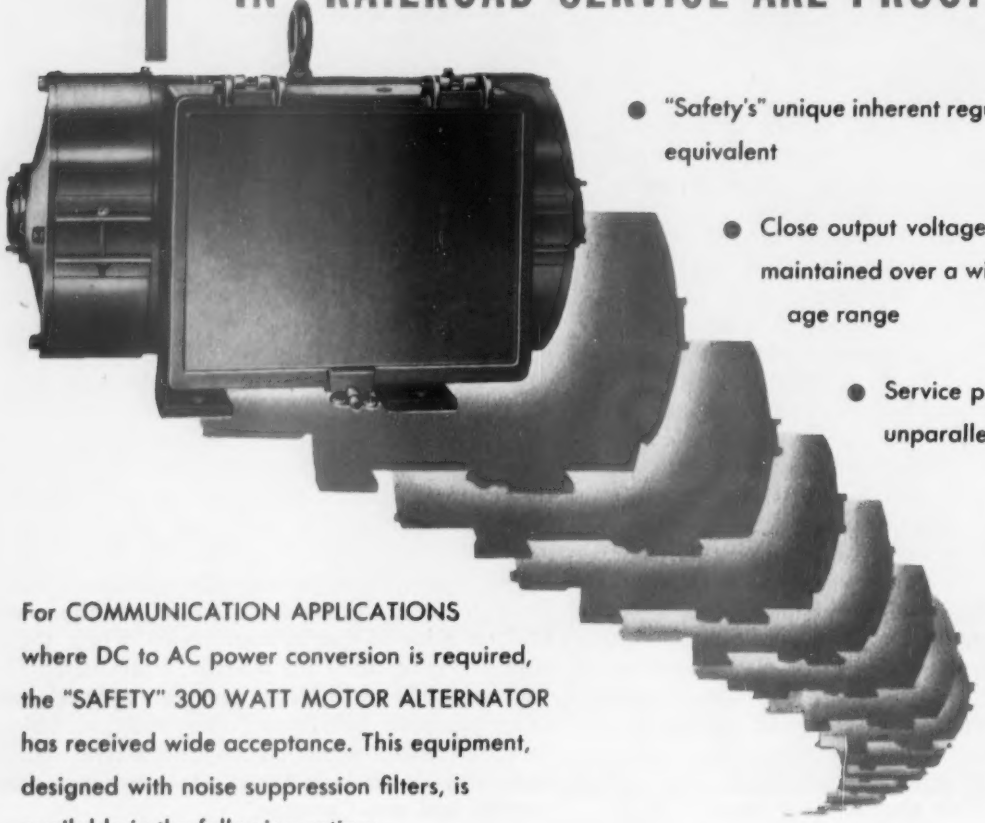

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NEW OFFICE BUILDING at the freighthouse. At left is tailboard side of platform built between new and old transfer platforms.

This Freight Transfer Expanded

How the Wabash enlarged and modernized East St. Louis facility used by forwarding company—Improvements include underfloor chain for hauling platform trucks

Primarily to accommodate substantial gains in the volume of forwarder traffic, the Wabash has just finished enlarging and modernizing its freighthouse at East St. Louis, Ill., which, since 1950, has been used for handling transfer business of Acme Fast Freight, Inc. This project included construction of a second transfer platform, installation of a Towveyor system serving both platforms, building an addition to the existing freighthouse, and construction of a modern office building.

This project is only one of a series of moves required by the growth of Acme business handled by the Wabash in the St. Louis area. Prior to 1950, a portion of that road's Fourth Street freighthouse at St. Louis was occupied by Acme. By 1950, however, the volume of transfer business had so increased that the facilities were no longer adequate. The solution was moving the Acme

Around the circuit—Platform truck (left), loaded with merchandise, is pulled from car to platform and attached to Towveyor chain in floor. Loaded trucks (center) may be removed from chain at any point. New cross platform (right) contains loop of Towveyor circuit. Platform trucks carrying merchandise for highway trucks can be detached from circuit here.

Two mechanical aids — **Fast transportation for freighthouse foreman on the long platform is provided by this three-wheel, motor-driven "scooter." At the right, a fork-lift truck maneuvers shipment into highway truck that is barely big enough to receive it.**

operation to the road's East St. Louis freighthouse, but this, in turn, required a number of additional subsidiary moves.

Prior to 1950 the East St. Louis freighthouse was used only for local lcl business, the volume of which ran from six to ten cars daily. This facility then consisted of a wood-frame structure, 528 ft by 50 ft, with a covered wood platform, 20 ft wide, along one side of the building.

To accommodate the Acme operation a reinforced concrete transfer platform 30 ft wide and 680 ft long was added, with a protective wood-frame canopy. The transfer platform was separated from the freighthouse by three stub-end tracks.

To clear the way for the Acme transfer the Wabash shifted the East St. Louis lcl business to the Fourth Street freighthouse in St. Louis, which was already handling inbound and outbound lcl for St. Louis proper. Thus, this structure is now used for all Wabash lcl business in the St. Louis area.

Acme's transfer work was expedited considerably when this operation was shifted to East St. Louis. Prior to that time, Acme loads arriving from the East over the Wabash were set out at Granite City, Ill., across the Mississippi river from St. Louis, and were then moved by transfer engine to the St. Louis Avenue yard of the Wabash in St. Louis over the Merchant's bridge. Now these cars are moved directly from the Wabash yard (Brooklyn) at East St. Louis to the freighthouse, requiring about two hours less time than was used to move them across the river. The saving in time is even greater when merchandise cars arrive at East St. Louis in solid trains, in which case, as no switching is required, they are moved on to the East St. Louis freighthouse without stopping.

Nature of Improvements

In the expansion and modernization program at the East St. Louis freighthouse, just recently completed, a second transfer platform, 28 ft by 730 ft, has been added. It is separated from the platform built in 1950 by three stub-end tracks having a total capacity of 48 car spots. A 3-car spur for loading refrigerator cars is also provided.

In addition, three house tracks were built on the opposite side of the new platform. These have a total capacity of 51 car spots. Thus, including the 50 car spots provided by the three original house tracks between the freighthouse and the first transfer platform, the total capacity is now 152 car spots.

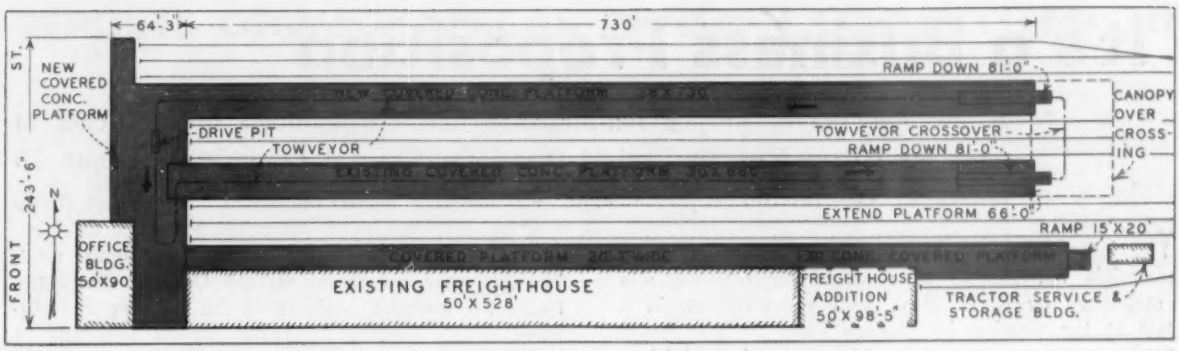
The platforms and the freighthouse extend in an east-west direction and the tracks approach from the east. The freighthouse is on the south, the transfer platform built in 1950 is in the middle and the new transfer platform is on the north. As part of the recent project a covered cross platform having a total length of 243 ft was constructed at the westerly end, so that the layout has the conventional E-shaped arrangement.

At the freighthouse end of the cross platform, and jutting into it somewhat, is the new two-story office building which also contains wash and locker rooms for employees. As another phase of the recent project, an extension 98.5 ft long was built at the east end of the freighthouse, and extending beyond this addition is a new covered concrete platform 130 ft long, terminating in a ramp leading down to the ground level. Built at the track level at the end of this platform is a 16-ft by 40-ft insulated metal building which provides space for servicing and storing mechanical equipment used in connection with the freighthouse and transfer operations.

The Conveyor System

One of the major features of the recent improvement is the Towveyor system serving the two transfer platforms. Essentially, this system, similar to others installed in various freighthouses, consists of a continuous chain operating in a closed circuit beneath the floor of the transfer platforms. The chain is fitted with pusher trolleys by which platform trucks may be attached by vertical coupling rods extending through a continuous slot in the platform floor.

At the outer end of the platforms the Towveyor circuit is brought down to the track level by ramps in the platforms. This means that the circuit crosses at top-of-rail level the three tracks separating the platforms. Special castings in the rails permit the coupling rods on the platform trucks to pass through the tracks. The Towveyor chain is interlocked with derails on the approach tracks to prevent operation of the conveyor while cars are being switched. The Towveyor crossover track is protected



SINCE 1950 the structure at East St. Louis ha been progressively expanded from the original facility which consisted only of the 50 ft by 528-ft freighthouse and its flanking platform.

from the weather by means of an overhead canopy.

At the west end of the platforms the loop in the Towveyor circuit is located in the new crossover platform. The drive motor and operating mechanism for the Towveyor are in a pit in the platform. As a safety measure, there are emergency stop stations at twenty points in the Towveyor circuit.

The Towveyor system was furnished and installed by the Jervis B. Webb Company, Detroit, Mich. For hauling units with the Towveyor the Wabash acquired 400 additional Thomas 2,000-lb capacity trailers from the Thomas Truck & Caster Co., Keokuk, Iowa. Other mechanized equipment in use at the freighthouse and transfer for hauling the platform trucks, and for handling merchandise directly, includes three 4000-lb. capacity fork-lift trucks and one Hebard tractor. Two of the fork-lift trucks are Clark units and the other is a Towmotor.

A rather unusual mechanized unit that is proving particularly valuable at this transfer is a three-wheel, motor-operated, one-man vehicle used by the foreman in getting quickly from place to place throughout the freighthouse and transfer platforms. Known as the "Widget," this unit was furnished by the Beall Manufacturing Company, Grand Rapids, Mich.

Operations Require Tailboard Space

Aside from the transfer work done at this location, it is necessary also to handle inbound merchandise consigned for delivery in the East St. Louis and St. Louis areas.

This merchandise is unloaded and sorted by routes and then loaded for delivery on trailers of a local drayage company. A certain amount of transfer business is also handled by street truck, particularly merchandise destined for movement over other railroads, such as the Cotton Belt, the Frisco and the Illinois Central. Increased tailboard space for these operations is provided along the front side of the new cross platform.

Like the transfer platform built in 1950, the new one has a timber-frame canopy and a deck of reinforced concrete constructed integrally with concrete retaining walls along the sides. Sand fill is placed between the retaining walls.

In designing the roof for the new cross platform, it was desired to avoid intermediate columns. For this reason the roof over this platform is supported by long-span open-web bar joists which have a clear span of 43 ft 3 in. between supporting columns. Where these joists are used, the roof consists of Robertson metal decking overlaid with Johns-Manville Roofinsul insulation board and a built-up composition roof.

The new office building is a modern structure which has been given a rather unusual exterior architectural treatment.

The two-story building has concrete foundations and walls extending up to the second floor level, above which the exterior walls are of concrete block. The surfaces of these walls are stuccoed except in the window-strip areas where the concrete block is left exposed, thus creating economically a pleasing architectural effect. Another exterior decorative feature is a large panel of glass blocks in the front wall directly above the main entrance in the center of the building.

Welfare Facilities on First Floor

The first floor of the office building is devoted entirely to welfare facilities for employees of the freighthouse and transfer platforms, except that a boiler room is provided in one corner on this level. Office space for both Wabash and Acme personnel occupies the second floor. Here the interior finish consists of asphalt tile floors on a concrete base, ceilings of acoustical tile and painted walls. Fluorescent lighting is used throughout, and the building is air conditioned.

Presently being installed is an intercommunication system, including talk-back speakers at strategic points throughout the transfer platforms and freighthouse, which will be centered in the office building.

Communication and electrical outlets for the offices are located in the floor. Distribution is by means of Robertson "Q-floor" and a system of cell feeders. The "Q-floor" serves as a ceiling for the first floor.

The building is heated by a forced hot-water system divided into three zones individually controlled by thermostats placed on the first floor and in each general office on the second floor. Electronic controls automatically control boiler-water temperature to suit outside temperature conditions.

The improvements described were made under the general direction of C. A. Johnston, general manager of the Wabash, and were designed under the supervision of W. G. Harding, architect.

"It's a Business Proposition"

R. G. May urges proper maintenance and development of new cars to meet special needs — Mechanical Division's General Committee accepts 16 technical committee reports and selects new officers

The importance of standardizing railroad parts and materials not subject to constant improvement was emphasized by R. G. May, AAR vice-president, in a talk at the meeting in Chicago June 29 and 30 of the General Committee of the AAR Mechanical Division. This standardization, however, must not be carried to a point where it will have any tendency to "stifle progress," he declared, and he particularly called for greater speed in developing new car designs requested by shippers to reduce material handling costs, afford additional load protection and expand railroad service.

"For example," Mr. May said, "the lumber and plasterboard shippers are requesting bulkheaded flat cars. They claim that shipments can be loaded and unloaded with fork-lift trucks and substantially reduce the handling costs of these items as well as any lading that can be transported on this type of car.

"Bulk commodities such as grain, flour, cement and many types of ore originally transported in box cars are now handled in covered hoppers and the demand for this type car is steadily increasing. A large number of railroads are considering trailer-on-flat-car operation. How much freight, now transported in box cars but susceptible of other means of handling, will be diverted cannot be estimated at present, but any appreciable amount will have an influence on the box-car ownership unless a large percentage is new business."

Development Just Beginning

Regarding passenger-car equipment, Mr. May said: "Air-conditioning, fluorescent lighting and automatically controlled water temperatures are accepted today as a necessity on single-unit cars, commutation coaches or on any of the numerous types of equipment used in through service. Research and development are only the beginning. Once a car has been developed, tested and adopted, proper maintenance is essential whether it is a freight- or passenger-carrying car. The very fact that we are in business to give satisfactory service at reasonable rates and pay a fair return to investors makes the maintenance of equipment a business proposition."

Mr. May said further: "All of us know the diesel locomotive was the greatest economic development of recent years for the railroad industry. However, in spite of savings, recent reports reflect an unsatisfactory rate of return on total investment to the industry as a whole. It is impossible to conceive where we would have been without the advantages of diesel power, but based on present conditions we must be concerned with factors which will develop economies sufficient to offset increases in the foreseeable future. In order to hold as well as increase gross revenues, it will be a must to provide the required types of equipment and in suitable condition for use."

Because the AAR Mechanical Division annual meeting this year was canceled, the General Committee, transacted essential business of the division and disposed of 16 standing committee reports presented by individual chairmen. With a few editorial corrections and minor changes, all of the reports were accepted, subject to letter ballot approval of necessary items.

These reports reflect an active year, even though the brief summaries in these pages can hardly offer complete evidence either of the importance of the reports or the time spent preparing them. The Arbitration, Price and Loading Rules reports, to mention only three, are vital factors in freight car interchange, billing for car repairs, and safe, economical loading. The work of these committees annually requires about 215, 170 and 274 man-days, respectively, exclusive of travel time. It is done by 45 committee and subcommittee members who must at the same time carry on their duties to their individual roads.

The General Committee sessions were presided over by Chairman H. T. Cover, assistant vice-president and chief of motive power of the Pennsylvania, who asked to be relieved of this duty even though new officers of the division are normally elected only at annual meetings. Subject to letter ballot approval, D. S. Neuhart, general superintendent motive power and machinery of the Union Pacific, will serve as new chairman of the Mechanical Division; F. K. Mitchell, assistant vice-president, equipment of the New York Central, as vice-chairman; and J. W. Hawthorne, general superintendent motive power and equipment of the Atlantic Coast Line, as incoming new member of the General Committee, in place of A. G. Kann, general superintendent of equipment, Illinois Central, retired.

HOT BOX REDUCTION

The Mechanical Division, through its Research Department and various committees, is continuing active efforts to find a real solution to the hot box problem. One of the most promising is the fitted bearing test now being conducted in conjunction with the Merchants Despatch Transportation Corporation, an initial progress report of which was presented at the General Committee meeting. One thousand refrigerator cars, equipped by this builder with step-size journals and both standard and fitted bearings, made almost 12 million car-miles up to May 31, the ratio of bearings removed on account of overheating being 1 to 26 in favor of the fitted bearings. Restrained optimism, pending more extensive experience especially during the difficult hot summer months, is the general attitude regarding these tests.

REPORTS OF MECHANICAL DIVISION COMMITTEES

Car Construction Details

The Committee on Car Construction submitted nine recommendations for letter-ballot action.

1. To Keep Ice Drippings from Journal Boxes.—The committee proposes for adoption as recommended practice flexible hose drain connection. It is low in initial cost and there are no wearing parts.

2. Uniform Platform Width for Flat Cars.—The committee proposes that flat cars built after January 1956, shall have a uniform width of 9 ft 4 in. between inside stake pockets. For inclusion in the Manual.

3. Grain Behind Box-Car Linings.—It is proposed that the present standard arrangement of box-car lining to provide for self clearance of grain behind the side lining be eliminated and replaced with an arrangement which provides for a 2-in. clear opening under the bottom side board and permanent closure at the top of the side, with a 45-deg chamfer along the top of the lining.

Test for Pedestal-Type Side Frames.—Drawings are submitted showing test setups designed to equalize both the application of the load and the reaction of the supports. For inclusion in Specification M-203-51.

5. Journal-Box Wear Gages.—The committee proposes two gages—one for determining the limits of wear of the journal-box hinge pin and the wedge seat in the ceiling of the box, and the other for determining the limit of wear of the hinge lug.

6. Four Z-Section Center Sills.—When the double-Z-section center sill was adopted as standard, one section weighing 72.4 lb per ft was available. There are now three additional sections: one 62.6 lb per ft; one 82.4 lb per ft, and one 102.4 lb per ft. It is proposed that the dimensions of all four sections be included in the Manual.

7. Repairs to Steel Center Sills.—An improvement in the method of repairing center sills broken in the area of the draft-key slot is proposed.

8. Standard Cap Screws for Roller-Bearing Boxes.—A standard list of sizes of cap screws and bolts to be used in the assembly of roller-bearing journal boxes has been agreed upon by a subcommittee and the Technical Committee of the Roller Bearing Manufacturers. For inclusion in the Manual.

9. Long-Travel Springs in Freight Service.—The committee proposes the addition of a paragraph to be added to Interchange Rule 3 to require truck springs of not less than 2½ in. travel and snubbing devices or built-in snubbing features on the trucks of all cars in interchange built new or rebuilt after January 1, 1956.

New Truck Castings Adopted—Many Old Eliminated.—During the year from April 1953 39 designs of truck side frames and 35 designs of truck bolsters were approved and assigned AAR identification numbers. A review during the year by the side-frame and bolster manufacturers of their patterns has resulted so far in the elimination of 58 side-frame and 2 bolster identifications. The check is not yet complete.

Axle Research Continues

An analysis of 225 instances of broken or burned-off journals in interchange service to determine the effect of previous overheatings was included in the report of the Axle and Crank-Pin Research Committee. Few showed evidence of copper penetration. As of May 27 no case had been reported where a cold break was associated with either a previous overheating or copper penetration.

Experimental axle tests on 11 passenger-car and 7 freight-car axle assemblies by the United States Steel Corporation at the Canton Laboratory led to the conclusion that water-quenching untreated axle forgings from 1,000 deg F does not improve resistance to initiation of fatigue cracks in the wheel-fit portion, but does greatly increase the resistance to breaking off in the wheel fit if such cracks occur.

Fatigue tests of experimental axles with raised wheel seats with as-forged (not machined) bodies indicated slightly greater fatigue life than the present AAR standard freight-car axle, but there is evidence that machining the axle body between wheel seats has a beneficial effect on the fatigue resistance of axles.

Completion of all authorized laboratory fatigue tests of the AAR standard passenger-car axle design was reported, covering Specification M-126-49.

They show that maximum allowable stress values for wheel seats of quenched and tempered Grade G and H axles in no case exceed the values obtained for non-heat-treated axles. Wheel seats of Grades G and H axles have 45% and 30% respectively, greater resistance to breaking off than normalized and tempered axles. Grade H wheel seats have 30% greater resistance to initiation of fatigue cracks than normalized and tempered wheel seats.

One large railroad reported difficulty with AAR passenger roller-bearing design axles cracking between wheel seats in high speed service. Investigation has been initiated.

Changes in Material Prices

The prices of a large number of items of material to be used in billing for freight-car repairs have been reduced in the proposed revisions of the prices and credits reported by the Committee on Prices for Labor and Materials in Rule 101. These include gaskets for flanged pipe fittings, for K type triples and AB brake valves, single-weight pipe ground-joint unions and union elbows, and several types of journal-box lids, both pressed steel and malleable iron.

None of these decreases is large. The net balance of the reductions in charges and credits or journal bearings is of the order of one cent per bearing—in some cases, nothing. Decreases also include geared hand brakes and brake shoes and brake-shoe keys, both horizontal and vertical. Changes in the prices of couplers and coupler parts, with a few exceptions, are mixed, ranging from plus or minus 60 cents to less. Lumber prices are reduced fractionally. Cast-iron wheels for all journal sizes show decreases ranging from $1.05 to $2.66, while the prices of one-wear wrought-steel wheels are increased by 10 cents per wheel. Prices of new standard axles have been advanced from 50 cents to $2.15 and second-hand prices somewhat less. Wheel scrap prices are down. No. 2 plus and No. 15 trussed brake beams are up 25 cents. Prices of all approved draft gears 22-3/8 in. and 24-5/8 in. long are advanced $1.00. Changes in the prices of non-approved gears varied from slight reductions to increases of 75 cents.

The per-pound prices for determining reproduction cost for ascertaining the settlement value of freight cars (Rule 112) increased by fractions of a cent for cars of all

classes except refrigerator cars. The changes in passenger-car prices follow the same pattern as those for freight cars.

All changes in material prices were rechecked as of March 1, 1954, August 1, 1954. Another check will be made in October and needed revisions made effective January 1, 1955.

Tank-Car Specifications

The complete set of specifications for tank cars is being rewritten to incorporate all changes since 1941. The Tank Car Committee reports that the revised edition will be in loose-leaf form to simplify keeping it current, and is expected to be available early next year.

Safety Appliances

Since the last report 93 applications were submitted. The Safety Appliance Committee handled cases where there was no precedent; these involving 105 designs.

Approval was granted on a U.S. Navy request for safety appliance on a flat car design for shipping naval ordnance.

Approval was granted for a new and a changed running board and a request received for approval of other gratings for listing in Interchange Rule 3.

Two requests in process are: (1) for approval of safety appliance on special design of multi-unit tank car (Taylor-Wharton Iron & Steel Co.) and (2) safety appliances on Evans double-deck flat car for shipping assembled automobiles.

Passenger-Car Floor Plans

The Committee on Passenger Car Specifications discussed standard floor plans for six types of sleeping cars at a meeting in March 1954. This meeting was held jointly with the American Railway Car Institute's Committee on Passenger Car Design, consisting of representatives of the American Car & Foundry Co. (now ACF Industries, Inc.), the Budd Company, Pullman-Standard Car Manufacturing Company and the St. Louis Car Company. The joint committees were in agreement on a number of changes, additions and alternates which were not developed to the point where they could be included in this report. These plans will be submitted either in a separate report or included in next year's report.

Revisions of Interchange Rules

Because hot boxes occur less frequently where journal boxes are not disturbed, the intervals after which repacking is required have been extended by three months by the Arbitration Committee in its 1954 report. The test on which this general conclusion was based showed that:

- No serious increase in dirt or deterioration of the packing resulted from normal use.
- For the first month after packing the percentage of hot boxes was 9.7% after which the rate declined to 6.9% from 8 to 12 months.
- New bearings produce greater operating friction and earlier oil film breakdown before the final stable bearing run-in condition is reached.
- Both laboratory and road tests show that newly packed boxes have a greater tendency to produce thread risers and that a relatively high-pressure force exists immediately after the waste is packed in the box and gradually decreases during run-in to a final lower stable value.

Recognizing the value of protective inside linings and coatings for tank cars used to haul corrosive commodities, the committee reduced the depreciation rate on such cars to equal the rate on cars having tanks for non-corrosive commodities. Other principal changes in interchange rules expanded the scope by requiring lading strap anchors on all flat cars built or rebuilt since January 1, 1940, improved snubbing devices or built-in snubbing features for trucks under new or rebuilt freight cars, and periodic dismantling of geared hand brakes.

Preventing Stuck Brakes

Reflecting the increased importance of brake-pipe leakage in today's longer diesel-hauled trains, the Committee on Brakes and Brake Equipment made two rule revisions which tightened up on conditions affecting leakage and require that couplings must be free from leakage. Brake leakage conditions improved in the past year. A survey made last year showed that 34.6% of cars tested failed to pass the flowrator leakage test; this year only 28.6% failed. Leakage conditions may improve further through a device the air-brake manufacturers are experimenting with to detect ring leakage of cars on the repair track.

The Brakes and Brake Equipment Committee advised against operating diesel units with No. 6 type brake equipment in multiple with units having 24-RL equipment. The complete locomotive becomes essentially No. 6-equipped, and the superior operating advantages of the 24-RL are lost. The committee on Locomotives, however, reports that there is a demand for such equipment and tests have been conducted with a proposed arrangement. Test results are expected soon.

Investigation indicates that improper maintenance of AB valve portions and non-compliance with Rules 100 and 101 are the main causes of stuck brakes in freight trains. Restricting train leakage will help, but the principal causes are found in the condition of the brake pipe and related piping. During cold weather, other contributing factors are defective angle cocks, leakage through brake-pipe hose nipples at angle cock, leakage through hose clamps, defective and worn couplings and hose-coupling gaskets.

The committee has granted permission to manufacturers to furnish a new design angle cock which prevents the handle from becoming closed unintentionally while in train movement. Such equipment will be checked for a year and if satisfactory the new design will be recommended as a letter ballot item for adoption as AAR Standard.

The report on Geared Hand Brakes included a proposal that hand brakes must operate in harmony with slack adjusters, either automatic or manual.

Specification Revisions

The Committee on Specifications for Materials recommended changes and revisions of the following specifications, the changes, in each case, to be submitted to letter ballot:

M-101—Interpretation of defects considered injurious in axles.

M-207—New specification covering the purchase and acceptance of AAR approved cast-steel yokes for use with conventional and twin draft gears.

(*Continued on page 34*)

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Freight Operating Statistics of Large Railways — Selected Items

Region, Road and Year		Miles of road operated	Train-miles	Locomotive Miles: Principal and helper	Locomotive Miles: Light	Car Miles: Loaded (*thousands*)	Car Miles: Per cent loaded	Ton-miles (*thousands*): Gross excl.locos & tenders	Ton-miles (*thousands*): Net rev. and non-rev.	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region	Boston & Maine	1954	1,665	254,348	260,248	10,447	9,782	63.5	646,105	245,205	73	1	7	8.6
		1953	1,668	264,083	269,526	10,201	10,264	67.1	646,854	251,879	84	7	13	12.5
	N. Y., N. H. & Hfd.	1954	1,747	283,282	283,286	13,822	11,510	65.3	722,146	281,397	89	..	8	8.2
		1953	1,764	307,443	307,602	19,794	12,321	68.8	747,414	300,754	95	..	5	5.0
Great Lakes Region	Delaware & Hudson	1954	793	179,945	185,198	10,157	8,487	66.0	579,870	282,384	39	5	1	2.2
		1958	793	203,230	208,819	11,019	9,517	67.7	653,995	329,308	41	25	14	17.5
	Del., Lack. & Western	1954	962	259,118	272,289	19,689	10,768	66.4	696,031	289,694	64	..	1	1.5
		1953	962	283,397	297,801	22,695	12,705	68.7	834,782	370,336	64	1	2	3.0
	Erie	1954	2,224	506,939	509,867	17,898	28,281	67.7	1,741,986	685,798	161	..	3	1.8
		1953	2,237	574,167	577,700	22,360	32,699	68.8	2,009,121	823,698	170	..	1	.6
	Grand Trunk Western	1954	952	240,738	245,912	1,987	8,234	59.2	580,830	225,847	61	2	14	18.2
		1953	952	284,319	290,959	2,409	9,346	61.1	646,741	260,973	64	2	14	17.5
	Lehigh Valley	1954	1,150	193,400	196,481	5,841	9,422	65.3	624,431	272,666	30	3	1	2.9
		1953	1,151	224,797	228,957	7,168	11,292	69.7	748,535	353,117	33	..	1	2.9
	New York Central	1954	10,663	2,251,984	2,288,071	84,846	92,277	60.7	6,505,255	2,801,932	614	125	137	15.6
		1953	10,667	2,629,953	2,701,504	110,118	104,231	63.0	7,284,325	3,224,402	746	65	198	19.6
	New York, Chic. & St. L.	1954	2,161	644,949	663,893	6,205	25,936	63.0	1,793,004	756,639	168	47	33	13.3
		1953	2,160	756,880	780,696	8,180	29,627	66.5	2,057,655	911,943	205	3	34	14.0
	Pitts. & Lake Erie	1954	221	51,596	51,755	64	2,421	63.7	209,636	126,124	15	7	1	4.3
		1953	221	78,100	80,328	86	3,516	68.0	297,408	183,680	30	4	7	17.1
	Wabash	1954	2,381	494,953	495,928	6,574	21,186	64.8	1,365,582	513,830	106	..	..	..
		1953	2,381	525,615	529,308	7,850	23,423	67.9	1,501,125	601,711	125	17	10	6.6
Central Eastern Region	Baltimore & Ohio	1954	6,077	1,376,456	1,509,041	125,016	55,948	60.0	4,218,512	1,936,793	436	95	104	16.4
		1953	6,081	1,567,654	1,731,352	164,393	64,513	62.8	4,870,335	2,334,019	489	56	107	16.4
	Central of New Jersey	1954	209	32,597	33,811	81	1,486	66.0	160,819	103,776	14	2	..	..
		1953	213	53,536	57,828	262	2,855	63.8	327,900	214,687	17	24	3	6.8
	Central of Pennsylvania	1954	613	122,373	123,703	6,344	4,478	63.9	334,375	170,039	60	2	8	11.4
		1953	617	126,684	131,525	10,163	5,079	68.3	360,873	186,475	72	7	8	9.2
	Chicago & Eastern Ill.	1954	868	116,152	116,152	2,969	4,643	65.4	324,745	158,844	25	..	3	10.7
		1953	868	119,991	119,991	2,381	5,262	71.2	339,902	166,508	27	..	2	6.9
	Elgin, Joliet & Eastern	1954	236	78,206	78,565	....	2,483	64.2	194,257	103,785	31	6	4	9.8
		1953	236	101,735	102,882	126	3,479	66.8	270,747	148,053	41	..	..	..
	Pennsylvania System	1954	9,906	2,517,218	2,684,682	178,538	107,687	61.5	7,708,932	3,408,485	744	373	363	24.5
		1953	9,941	3,061,920	3,268,063	275,739	129,978	64.7	9,281,157	4,379,480	1,011	161	344	22.7
	Reading	1954	1,305	289,736	293,813	13,640	11,189	60.4	874,817	432,479	163	42	19	8.5
		1953	1,309	350,722	359,037	17,500	12,879	63.4	999,604	518,293	171	17	23	10.9
	Western Maryland	1954	857	144,008	154,939	9,510	5,615	64.4	457,091	255,785	53	26	1	1.3
		1953	873	181,244	205,969	20,216	6,429	64.8	525,181	196,283	104	15	12	9.2
Pocahontas Region	Chesapeake & Ohio	1954	5,021	1,144,981	1,164,868	27,851	47,961	57.9	3,956,119	2,155,235	322	102	166	28.1
		1953	5,036	1,250,231	1,280,566	34,529	56,959	57.9	4,791,710	2,612,548	415	58	166	26.0
	Norfolk & Western	1954	2,113	555,183	579,356	36,623	24,873	59.9	2,164,060	1,150,301	205	48	23	8.3
		1953	2,113	633,419	668,434	44,747	30,034	59.9	2,618,241	1,408,612	217	34	20	7.4
Southern Region	Atlantic Coast Line	1954	5,354	840,937	840,940	9,985	26,030	57.0	1,900,227	817,472	241	..	6	2.4
		1953	5,367	910,765	910,774	10,903	28,810	57.9	2,082,604	906,662	247	..	2	.8
	Central of Georgia	1954	1,731	188,753	188,776	2,371	7,121	67.1	488,601	231,124	69	..	1	1.4
		1953	1,754	215,164	220,128	2,796	8,110	67.2	557,164	261,770	85	10	1	1.0
	Gulf, Mobile & Ohio	1954	2,718	285,747	285,747	222	14,756	66.0	1,006,398	458,271	87	..	2	2.2
		1953	2,718	313,007	313,007	197	16,810	71.2	1,102,096	526,387	87	..	2	2.2
	Illinois Central	1954	6,537	1,271,825	1,276,308	42,456	46,634	62.9	3,328,669	1,490,053	487	63	97	15.0
		1953	6,538	1,447,123	1,454,631	49,120	51,850	62.4	3,741,349	1,682,907	568	34	73	10.8
	Louisville & Nashville	1954	4,722	825,228	840,625	16,274	29,740	62.8	2,216,836	1,102,988	219	85	26	7.9
		1953	4,728	963,435	1,014,934	23,839	34,872	64.7	2,574,433	1,306,476	257	60	40	11.2
	Nash., Chatt. & St. Louis	1954	1,032	183,907	189,138	4,629	6,261	64.9	429,501	195,574	50	..	3	5.7
		1953	1,032	201,487	205,712	3,868	6,815	71.4	432,746	210,243	50	..	3	5.7
	Seaboard Air Line	1954	4,067	663,005	663,005	2,307	25,937	60.4	1,901,444	816,362	145	..	6	4.0
		1953	4,070	700,101	700,101	1,900	27,295	63.3	1,930,273	847,846	152	57	14	6.3
	Southern	1954	6,262	914,811	914,856	12,596	38,137	65.2	2,504,097	1,103,235	271	..	2	.7
		1953	6,263	990,906	990,336	11,650	40,231	70.0	2,544,265	1,165,413	242	30	20	6.8
Northwestern Region	Chicago & North Western	1954	7,850	686,155	689,081	11,357	27,170	64.5	1,848,845	842,270	179	33	75	26.1
		1953	7,849	762,629	765,827	12,654	30,423	65.4	2,131,326	958,324	283	27	91	22.7
	Chicago Great Western	1954	1,437	130,545	130,545	222	7,308	68.0	489,460	220,349	29	..	4	12.1
		1953	1,435	129,767	129,885	244	7,984	70.7	553,373	269,369	30	..	4	11.8
	Chic., Milw., St. P. & Pac.	1954	10,631	942,630	956,111	22,545	39,604	65.4	2,667,405	1,181,329	293	105	39	8.9
		1953	10,662	1,032,036	1,056,832	33,296	43,003	65.7	2,891,960	1,284,087	346	79	45	9.6
	Chic., St. P., Minn. & Omaha	1954	1,606	157,819	159,130	4,418	4,667	65.7	321,115	137,662	63	6	23	25.0
		1953	1,606	171,438	173,431	4,912	5,054	68.0	343,934	151,397	64	..	27	29.7
	Duluth, Missabe & Iron Range	1954	566	64,202	64,539	663	2,492	53.4	261,367	156,699	43	3	9	16.4
		1953	567	152,901	153,921	1,324	7,147	50.8	733,729	432,370	63	..	7	10.0
	Great Northern	1954	8,293	948,343	954,532	24,665	38,054	68.1	2,648,465	1,246,659	205	246	37	7.6
		1953	8,291	1,056,038	1,059,094	33,056	43,401	68.8	3,053,656	1,520,583	292	187	46	8.8
	Minneap., St. P. & S. S. M.	1954	4,169	368,481	370,798	3,137	11,986	70.6	743,992	345,827	95	5	13	11.5
		1953	4,172	380,071	383,913	2,632	12,654	67.0	819,869	377,802	105	2	14	11.6
	Northern Pacific	1954	6,570	766,869	788,247	26,608	31,331	69.6	2,099,778	959,523	285	62	62	15.2
		1953	6,585	790,566	817,726	33,304	32,862	69.6	2,209,556	1,015,979	292	36	77	19.0
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1954	13,067	2,277,350	2,344,314	60,013	98,316	59.6	6,948,579	2,486,146	518	155	30	4.3
		1953	13,094	2,575,416	2,660,944	84,197	112,913	64.2	7,616,293	2,870,299	558	127	57	7.7
	Chic., Burl. & Quincy	1954	8,824	1,053,976	1,047,324	32,767	43,528	67.6	2,841,240	1,255,594	229	76	30	9.0
		1953	8,833	1,143,792	1,145,845	34,988	47,284	66.5	3,086,066	1,372,165	284	52	91	21.3
	Chic., Rock I. & Pac.	1954	7,861	893,012	888,178	2,117	34,207	59.5	2,470,471	984,501	171	2	10	5.5
		1953	7,895	950,218	943,528	2,653	36,107	62.4	2,560,112	1,055,916	173	11	11	5.6
	Denver & R. G. Wn.	1954	2,164	253,441	269,944	24,221	12,002	73.6	790,040	378,871	57	60	21	15.2
		1953	2,313	291,072	316,350	29,829	14,284	70.4	989,160	472,586	73	46	33	21.7
	Southern Pacific	1954	8,065	1,965,377	2,063,057	224,311	88,146	64.5	6,093,082	2,503,416	566	118	118	14.7
		1953	8,058	2,134,229	2,240,225	259,193	92,070	64.1	6,383,524	2,623,526	643	64	145	17.0
	Union Pacific	1954	9,816	1,998,131	2,040,745	89,009	91,147	66.2	6,034,987	2,518,364	402	402	72	8.2
		1953	9,824	2,386,913	2,477,970	177,579	98,579	65.6	6,705,292	2,879,898	536	128	131	16.5
	Western Pacific	1954	1,190	212,281	214,033	12,538	9,620	70.9	628,500	290,730	38	4	2	4.5
		1953	1,190	243,182	250,834	27,433	11,122	69.3	741,827	341,923	43	11	3	5.3
Southwestern Region	International-Gt. Northern*	1954	1,103	148,891	148,891	....	5,835	63.7	410,813	181,050	46	2	..	..
		1953	1,104	185,488	185,488	208	7,307	63.5	544,364	224,100	56	5	1	1.6
	Kansas City Southern	1954	886	134,985	135,116	108	7,944	65.7	560,949	251,323	23	..	1	4.2
		1953	886	170,198	170,210	253	9,219	66.9	644,039	297,308	25	2	..	..
	Mo.-Kans.-Texas Lines	1954	3,229	340,599	340,599	3,859	13,255	63.4	869,325	368,535	85	..	1	1.2
		1953	3,230	373,313	373,313	3,764	14,620	63.8	953,391	408,850	88	11	7	6.6
	Missouri Pacific*	1954	6,904	1,007,330	1,008,635	11,481	41,163	64.9	2,779,187	1,194,765	253	50	91	23.1
		1953	6,917	1,224,640	1,229,336	16,984	47,925	64.8	3,285,748	1,435,184	293	41	58	14.8
	Texas & Pacific	1954	1,827	292,355	292,355	2,798	12,929	64.5	896,096	349,371	61	..	..	..
		1953	1,831	329,405	329,405	3,109	14,089	64.6	970,255	376,533	60	..	..	..
	St. Louis-San Francisco	1954	156	21,900	21,900	....	556	62.5	37,770	15,960	3	..	..	..
		1953	156	22,377	22,377	....	625	64.4	41,741	19,089	2	..	..	..
	St. Louis Southw. Lines	1954	1,555	276,591	276,603	3,712	13,145	70.1	814,593	364,135	54	11	6	8.5
		1953	1,561	328,290	328,316	4,489	15,877	71.9	969,563	433,408	62	20	5	5.7
	Texas & New Orleans	1954	4,279	667,472	667,472	7,770	25,604	63.9	1,780,536	764,902	141	..	43	23.4
		1953	4,279	727,924	732,209	16,014	28,686	68.0	1,922,909	851,755	206	..	28	12.0

For the Month of April 1954 Compared with April 1953

Region	Road	Year	Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos. and tenders	G.t.m.per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine	1954	3,139	7,363	10,502	4.6	42,226	2,546	966	25.1	791	49.7	4,909	16.6	124.6
		1953	1,693	8,026	9,719	2.3	41,078	2,452	955	24.5	856	52.0	5,034	16.8	97.6
	N. Y., N. H. & Hfd.	1954	3,105	12,461	15,566	2.4	42,587	2,549	993	24.4	592	37.1	5,369	16.7	130.3
		1953	1,734	13,873	15,607	2.4	38,481	2,431	978	24.4	630	37.5	3,683	15.8	128.2
Great Lakes Region	Delaware & Hudson	1954	7,600	4,042	11,642	4.7	61,427	3,241	1,578	33.3	805	36.7	11,870	19.1	155.0
		1953	6,466	4,457	10,923	4.5	61,914	3,234	1,628	34.6	993	42.4	13,842	19.2	101.5
	Del., Lack. & Western	1954	9,101	8,178	17,279	4.8	47,179	2,730	1,136	26.9	575	32.2	10,038	17.6	167.2
		1953	6,758	9,589	16,347	4.1	50,734	3,010	1,335	29.1	757	37.8	12,832	17.2	179.2
	Erie	1954	13,034	14,380	27,414	5.1	64,782	3,467	1,365	24.2	854	52.0	10,279	18.9	117.4
		1953	8,687	18,171	26,858	2.9	64,397	3,533	1,448	25.2	1,017	58.7	12,274	18.4	128.8
	Grand Trunk Western	1954	4,289	7,991	12,280	4.2	51,365	2,425	943	27.4	631	38.9	7,908	21.3	115.0
		1953	3,537	9,565	13,102	4.5	48,591	2,293	925	27.9	690	40.4	9,138	21.4	128.9
	Lehigh Valley	1954	9,777	6,208	15,985	6.0	66,119	3,248	1,418	28.9	568	30.1	7,903	20.5	213.5
		1953	6,159	10,096	16,255	4.1	67,557	3,375	1,592	31.3	713	32.7	10,226	20.3	255.2
	New York Central	1954	87,665	73,232	160,897	9.6	51,193	2,928	1,261	30.4	583	17.7	8,759	17.7	100.8
		1953	72,635	88,221	160,856	8.0	48,093	2,815	1,250	31.0	667	17.4	10,107	17.4	103.4
	New York, Chic. & St. L.	1954	10,496	12,699	23,195	7.1	52,734	2,810	1,186	29.2	1,104	60.1	11,671	19.0	98.4
		1953	7,716	16,902	24,618	5.8	49,184	2,764	1,225	30.8	1,238	60.5	14,073	18.1	118.6
	Pitts. & Lake Erie	1954	9,834	5,756	15,590	7.1	59,982	4,063	2,444	52.1	276	8.3	19,023	14.8	68.1
		1953	4,265	8,295	12,560	6.0	56,327	3,808	2,352	52.2	468	13.2	27,704	14.8	74.0
	Wabash	1954	8,695	9,282	17,977	7.7	64,533	2,774	1,044	24.3	919	54.8	7,193	23.4	164.9
		1953	8,002	10,906	18,908	8.3	65,586	2,872	1,151	25.7	1,054	60.5	8,424	23.0	123.6
Central Eastern Region	Baltimore & Ohio	1954	63,719	34,819	98,538	9.9	48,421	3,097	1,422	34.6	657	31.6	10,624	15.8	91.1
		1953	55,606	43,463	99,069	6.7	46,606	3,149	1,509	36.2	802	35.3	12,794	15.0	99.2
	Central of New Jersey	1954	8,728	736	9,464	7.4	72,506	5,102	3,293	69.8	357	7.7	16,551	14.7	80.4
		1953	6,055	943	6,998	8.7	98,056	6,308	4,130	75.2	905	18.9	33,597	16.0	51.1
	Central of Pennsylvania	1954	5,639	8,404	14,043	11.3	39,609	2,853	1,451	38.0	412	17.0	9,246	14.5	83.7
		1953	3,958	9,894	13,852	6.7	38,391	3,008	1,554	36.7	434	17.3	10,074	13.5	79.5
	Chicago & Eastern Ill.	1954	3,513	2,933	6,446	7.9	50,536	2,805	1,372	34.2	832	37.2	6,100	18.1	153.4
		1953	2,960	3,982	6,942	8.9	46,980	2,863	1,402	31.6	810	36.0	6,394	16.6	150.4
	Elgin, Joliet & Eastern	1954	7,174	6,484	13,658	6.2	22,948	2,602	1,390	41.8	249	9.3	14,659	9.2	83.9
		1953	7,573	11,199	18,772	5.1	22,048	2,758	1,508	42.6	264	9.3	20,911	8.3	110.3
	Pennsylvania System	1954	109,481	95,353	204,834	10.1	55,922	3,139	1,388	31.7	557	28.6	11,469	18.3	70.4
		1953	105,894	99,276	205,170	8.4	52,526	3,109	1,467	33.7	713	32.7	14,685	17.3	84.6
	Reading	1954	22,488	12,284	34,772	6.4	44,183	3,020	1,493	38.7	413	17.7	11,047	14.6	55.0
		1953	17,228	17,333	34,561	4.8	39,930	2,852	1,479	40.2	504	19.7	13,198	14.0	73.3
	Western Maryland	1954	8,738	2,556	11,294	3.6	45,925	3,220	1,802	45.6	742	25.3	9,949	14.5	71.2
		1953	7,294	3,064	10,358	6.8	42,075	2,953	1,666	46.1	941	31.5	11,313	14.5	61.9
Pocahontas Region	Chesapeake & Ohio	1954	60,673	22,232	82,905	3.4	67,576	3,472	1,892	44.9	873	33.6	14,308	19.6	71.8
		1953	55,509	25,608	81,117	2.8	69,641	3,848	2,098	45.9	1,077	40.5	17,292	18.2	74.8
	Norfolk & Western	1954	42,578	5,739	48,317	2.5	69,421	3,978	2,114	46.2	783	28.3	18,146	17.8	81.3
		1953	34,444	6,815	41,259	3.0	71,817	4,200	2,260	46.9	1,103	39.2	22,221	17.4	95.8
Southern Region	Atlantic Coast Line	1954	22,155	14,462	36,617	2.0	40,471	2,282	982	31.4	746	41.7	5,089	17.9	127.8
		1953	15,858	18,177	34,035	2.1	38,921	2,308	1,005	31.5	873	47.9	5,631	17.0	137.8
	Central of Georgia	1954	4,009	4,521	8,530	4.4	46,716	2,602	1,231	32.5	871	40.0	4,451	18.0	98.7
		1953	3,037	5,945	8,982	5.1	45,438	2,598	1,220	32.3	920	42.4	4,975	17.5	85.6
	Gulf, Mobile & Ohio	1954	6,485	8,062	14,547	4.2	73,497	3,532	1,608	31.1	1,027	50.1	5,620	20.9	114.3
		1953	4,839	9,739	14,578	3.7	70,629	3,536	1,689	31.3	1,214	54.4	6,456	20.1	125.3
	Illinois Central	1954	32,721	19,578	52,299	4.0	46,276	2,653	1,188	32.0	939	46.8	7,598	17.7	74.0
		1953	27,006	24,522	51,528	1.9	45,259	2,623	1,180	32.5	1,076	53.2	8,580	17.5	80.9
	Louisville & Nashville	1954	41,107	12,190	53,297	2.9	47,298	2,693	1,340	37.1	685	29.4	7,786	17.6	92.1
		1953	35,721	14,596	50,317	3.4	45,789	2,678	1,359	37.5	833	34.4	9,211	17.1	106.3
	Nash., Chatt. & St. Louis	1954	4,070	3,520	7,590	3.2	45,701	2,340	1,065	31.2	844	41.6	6,317	19.6	130.2
		1953	2,780	4,416	7,196	2.3	42,014	2,155	1,047	30.9	1,022	46.4	6,791	19.6	141.2
	Seaboard Air Line	1954	15,030	13,364	28,394	2.6	52,933	2,915	1,252	31.5	954	50.2	6,691	18.5	173.8
		1953	11,012	15,269	26,281	2.2	51,133	2,793	1,227	31.1	1,056	53.7	6,944	18.5	121.1
	Southern	1954	20,063	22,972	43,035	3.4	49,167	2,745	1,209	28.9	854	45.2	5,873	18.0	123.4
		1953	16,280	26,338	42,618	3.2	44,654	2,584	1,184	29.0	902	44.5	6,203	17.4	123.2
Northwestern Region	Chicago & North Western	1954	24,010	23,903	47,913	5.4	48,202	2,756	1,255	31.0	603	30.1	3,577	17.9	86.6
		1953	20,785	26,693	47,478	4.5	48,351	2,881	1,296	31.5	690	33.5	4,070	17.3	71.0
	Chicago Great Western	1954	1,981	3,613	5,594	3.8	72,685	3,755	1,691	30.1	1,300	63.4	5,111	19.4	136.9
		1953	1,572	5,016	6,588	3.0	76,676	4,275	2,081	33.7	1,402	58.8	6,257	18.0	133.2
	Chic., Milw., St. P. & Pac.	1954	37,618	25,527	63,145	7.1	52,443	2,840	1,258	29.8	616	31.6	3,704	18.5	80.5
		1953	34,298	30,529	64,827	4.3	50,407	2,817	1,251	29.9	663	33.8	4,015	18.0	82.1
	Chic., St. P., Minn. & Omaha	1954	1,125	6,621	7,746	5.1	32,511	2,047	878	29.5	583	30.1	2,857	16.0	65.9
		1953	1,099	7,272	8,371	3.2	32,179	2,069	911	30.0	587	28.8	3,142	16.0	71.9
	Duluth, Missabe & Iron Range	1954	14,826	481	15,307	1.2	69,420	4,266	2,558	62.9	341	10.2	9,228	17.1	41.0
		1953	14,479	1,208	15,687	3.6	83,749	5,029	2,964	60.5	924	30.0	25,419	17.5	87.1
	Great Northern	1954	26,739	15,715	42,454	3.1	51,736	2,814	1,325	32.8	960	43.0	5,011	18.5	71.0
		1953	24,594	18,271	42,865	4.5	49,734	2,925	1,456	35.0	1,168	48.5	6,113	17.2	75.1
	Minneap., St. P. & S. S. M.	1954	7,712	5,904	13,616	6.2	42,198	2,029	943	28.9	848	41.6	2,765	20.9	116.8
		1953	6,893	6,916	13,809	6.5	43,078	2,163	997	29.9	917	45.8	3,019	20.0	113.3
	Northern Pacific	1954	22,598	12,183	34,781	5.6	53,230	2,755	1,259	30.6	909	42.7	4,868	19.4	71.2
		1953	20,021	14,493	34,514	3.9	53,724	2,809	1,292	30.9	975	45.3	5,143	19.2	76.2
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1954	59,905	30,531	90,436	3.0	73,022	3,062	1,096	25.3	922	61.2	6,342	23.9	121.1
		1953	49,798	33,715	83,513	3.7	67,376	2,970	1,119	25.4	1,161	71.2	7,307	22.8	130.7
	Chic., Burl. & Quincy	1954	21,852	18,809	40,661	3.5	56,745	2,700	1,193	28.8	1,011	51.9	4,743	21.1	105.2
		1953	18,578	24,043	42,621	3.1	56,091	2,704	1,202	29.0	1,081	56.0	5,178	20.8	91.9
	Chic., Rock I. & Pac.	1954	14,582	19,092	33,674	4.9	55,363	2,770	1,104	28.8	965	56.4	4,175	20.0	172.2
		1953	12,106	21,202	33,308	4.8	52,955	2,700	1,114	29.2	1,038	59.6	4,458	19.7	171.9
	Denver & R. G. Wn.	1954	9,557	3,835	13,392	4.2	63,518	3,127	1,499	31.6	943	40.6	5,836	20.4	74.6
		1953	7,700	6,350	14,050	3.4	61,915	3,411	1,630	33.1	1,124	48.3	6,811	18.2	80.6
	Southern Pacific	1954	36,211	38,625	74,836	1.9	59,245	3,125	1,284	28.4	1,050	57.3	10,347	19.1	100.6
		1953	29,555	45,413	74,968	2.2	55,407	3,013	1,238	28.5	1,178	64.5	10,853	18.5	104.1
	Union Pacific	1954	34,749	26,393	61,142	2.7	77,251	3,051	1,273	27.6	1,347	73.6	8,552	25.6	84.4
		1953	31,263	32,891	64,154	2.5	68,220	2,873	1,234	29.2	1,511	78.9	9,772	24.3	113.2
	Western Pacific	1954	3,083	2,213	5,296	5.2	74,264	2,975	1,376	30.2	1,773	82.8	8,144	25.1	171.9
		1953	2,386	3,043	5,429	6.2	75,259	3,069	1,415	30.7	1,936	90.9	9,578	24.7	174.8
Southwestern Region	International-Gt. Northern*	1954	906	5,704	6,610	3.6	57,755	2,769	1,220	31.0	942	47.7	5,471	20.9	111.3
		1953	827	8,424	9,251	2.2	59,454	2,958	1,218	30.7	825	42.3	6,766	20.3	105.5
	Kansas City Southern	1954	1,197	5,936	7,133	3.6	87,443	4,164	1,866	31.6	1,202	57.8	9,455	21.0	193.7
		1953	1,019	6,038	7,057	5.1	76,653	3,800	1,754	32.2	1,417	65.7	11,185	20.3	216.9
	Mo.-Kans.-Texas Lines	1954	5,515	6,096	11,611	5.1	55,512	2,561	1,086	27.8	1,068	60.6	3,804	21.7	141.5
		1953	4,404	6,379	10,783	5.0	53,409	2,561	1,098	28.0	1,234	69.2	4,219	20.9	124.5
	Missouri Pacific*	1954	21,089	15,717	36,806	2.1	61,776	2,767	1,190	29.0	1,113	59.1	5,768	22.4	93.5
		1953	18,275	17,203	35,478	3.1	58,900	2,696	1,177	29.9	1,368	70.5	6,916	22.0	113.5
	Texas & Pacific	1954	3,415	5,877	9,292	4.8	69,567	3,073	1,198	27.0	1,229	70.5	6,374	22.7	172.2
		1953	2,601	6,751	9,352	4.2	68,179	2,951	1,145	26.7	1,303	75.4	6,855	23.1	194.0
	St. Louis-San Francisco	1954	----	444	444	5.6	35,835	1,725	729	28.7	1,090	60.7	3,410	20.8	256.6
		1953	----	887	887	2.6	35,106	1,865	853	30.5	711	36.1	4,079	18.8	396.8
	St. Louis Southw. Lines	1954	2,703	3,901	6,604	2.1	58,862	2,947	1,317	27.7	1,842	94.9	7,806	20.0	136.9
		1953	2,760	5,734	8,434	2.1	61,595	2,955	1,321	27.3	1,774	90.4	9,255	20.9	134.7
	Texas & New Orleans	1954	6,849	14,342	21,191	1.5	54,552	2,687	1,154	29.9	1,201	62.1	5,959	20.5	126.3
		1953	5,584	14,527	20,111	1.2	51,736	2,663	1,180	29.7	1,387	68.7	6,635	19.6	114.3

* Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

MECHANICAL DIVISION REPORTS

(Continued from page 30)

M-306—Welded Wrought Iron Pipe; changes to effect consistency with commercial practice.

M-617—Hose used in handling diesel fuel oil.

M-910—Renovated Journal Box Packing; extensive revisions as well as additions to two new sections on "Definitions of Terms" and "Material."

M-911—Specifications for brushes rewritten to eliminate emergency status since revocation of NPA Order M-18 and to include use of European bristles having no dye.

M-918—Proposed specifications for diesel crankcase lubricating consisting of specification, agreement and test manual is now practically ready for action.

A progress report, dated August 1953, on the completion of six full-scale field-service tests of fuels selected to investigate the effect of variations in sulphur content, ignition quality and end point has been distributed for the confidential information of railroad personnel.

Coupler and Draft Gear Specifications

Spring Type Carrier Irons.—An investigation showed that the springs used in the original design of spring type carrier irons for Types D and E couplers were weak. These springs were stiffened later and a majority of the coupler carriers sold have the heavier springs. The committee does not recommend that these be ordered off cars.

Tests of Controlled Slack Coupler.—Ten tests of controlled slack coupler for comparison with the Type H tightlock coupler were started on March 15, 1954, and completed on April 27. Seven tests were made at the Technical Center of the National Malleable & Steel Castings Co., Cleveland, and three at the Alliance, Ohio, plant of American Steel Foundries. An analysis of the voluminous data could not be made in time for the report.

Second-Hand Draft Gears.—In its 1953 report the Subcommittee on Draft Gears recommended (1) that defective draft gears removed from foreign cars be credited as scrap and reported to the owner for disposition; (2) that the application of second-hand draft gears to foreign cars be prohibited; and (3) that the application of second-hand draft gears in good condition be permitted only in system cars. These recommendations were approved by letter ballot. Because of a considerable negative vote the General Committee asked the subcommittee to find a more acceptable solution if possible. The principal comment was against proposal (1).

The committee's concern is to set up rules to insure that second-hand gears are in proper condition to go into foreign cars and that the car owner may be fairly billed for 75 per cent of the price new for such gears, as presently called for in the Interchange Rules. To accomplish this the committee has drawn up a proposed Specification M-901-B, entitled "Approved Reconditioned Draft Gears, Other Than Rubber, for Freight Service." This states that defective gears, when removed, shall be completely dismantled, inspected, and repaired, and that at least 20 per cent of the repaired gears shall be tested for capacity under either a 9,000-lb or 27,000-lb tup, whichever the repair point has available. It calls for a minimum capacity of not less than 90 per cent of the required capacity for a new gear, or 16,200 ft lb. For letter-ballot action.

Cost of Certifying Draft Gears.—Certification tests of new draft-gear designs prescribed in Specification M-901 have been billed to the manufacturer at $300 for the test of capacity as received, known as the "spot test," and $1,600 for the complete tests. Due to increased costs for labor and material, the committee, on recommendation of the AAR director of mechanical research has approved increasing these charges to $350 and $1,900, respectively.

Certified Draft Gears.—A conditional certificate of approval has been issued for Waugh Equipment Company's Type WM-DC-5 rubber cushion draft gear, with applications limited to 6,000 gears until check tests can be made after two years' service.

Hulson Type 202 Modified and Type 202-A will remain in the list of approved draft gears and will be tested again after three years' service.

The Peerless Equipment Company has made changes in design and materials of the conditionally approved draft gear Type D-A. This gear will be resubmitted for tests.

Short Draft Gears for Cars.—The following short draft gears for pocket lengths of 17-1/2 in. and 18-1/2 in. were tested and approved and will be included in Interchange Rule 101: Cardwell Westinghouse Type L-20-S, and National Malleable & Steel Castings Type MF-294-A. An application has been received from W. H. Miner, Inc., for a test of its Class FR-9 Draft Gear.

Cast Steel Wheels Pile Up Mileage

The Committee on Wheels studied a proposal to extend the prohibition of chilled iron car wheels on 70-ton covered hopper cars to all freight cars of 70-ton capacity or more, but found insufficient evidence to support this additional restriction.

The Southern Wheel Division was granted permission to produce up to 100,000 experimental AARX-2 cast-steel wheels for interchange service. Performance reports are to be submitted quarterly for review by the committee, as is done with AARX-3 cast steel wheels made by the Griffin Wheel Company.

Appendix A of the committee's report shows that 188 AARX-2 wheels made 3,678,100 car-miles up to March 1, 1954, 29 of the 46 test cars exceeding 50,000 miles each and 12 making over 100,000 miles each. The new Southern wheel plant at Calera, Ala., poured its first 12 wheels on February 25 and is expected to produce up to 160 wheels a day by the last quarter of this year.

As of March 1, 1,080 AARX-3 wheels were in service on 221 cars which had made a total of 5,227,117 car-miles, 23 cars having accumulated over 50,000 miles each. In addition to these 1,080 test wheels, 1,907 AARX-3 wheels had been shipped to various railroads, making a total of 2,987 of these wheels shipped to date. The Griffin plant in Chicago was reported in full-time operation and this company's Canadian plant at St. Hyacinthe, Que., which poured its first heat of 20 cast-steel wheels on March 18, 1954, is progressing toward a full-time production schedule.

The committee recommended a number of revisions in the Wheel and Axle Manual for editorial correction and letter ballot action.

Journal-Box Devices Under Test

Testing three new brands of roller-bearing grease in road service has continued since the 1953 annual meeting and three additional brands, approved by the laboratory, have been submitted for road testing. No additional approvals have been given this year. The Committee on Lubrication of Cars and Locomotives reports the ability of

(Continued on page 37)

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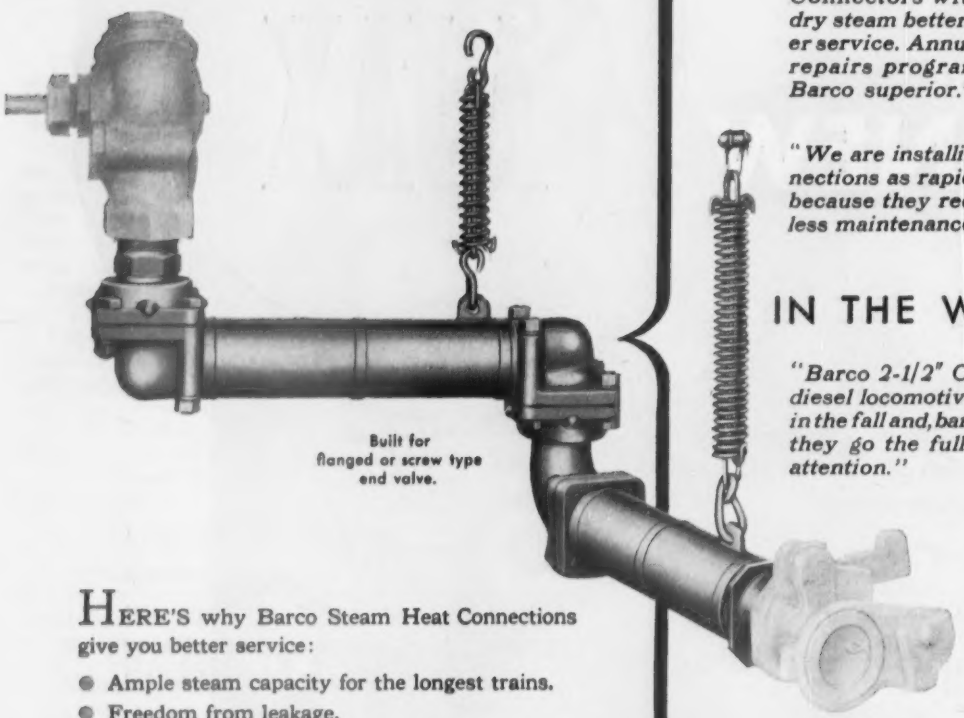

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"We started a test of Barco Connections on our road two years ago. A year later we ordered another sixty and only one has been removed in a year."

WHAT HELPS THE RAILROADS, HELPS AMERICA

MECHANICAL DIVISION REPORTS

(Continued from page 34)

present approved greases to lubricate satisfactorily; the problem is lubricant retention.

Three requests for minor changes in the design of journal-box lids under existing certificates were granted and one lid, in the 6½-in. by 12-in. size, was recommended for AAR approval. Rubber seal gaskets for journal-box lids, made by the Roth Rubber Company, Chicago, were tested and authorized for all approved lids except those of the Symington-Gould type. Modification of various spring packing retainers at the collar end promises solution of the damaged-collar problem.

Status of Research Projects

The report summarized the extensive work of the AAR Mechanical Research Department in lubrication matters to date. Report MR-210 dated December 1953, analyzes data relative to 74,472 freight-car hot-boxes on 14 member roads. Joint participation with the Pennsylvania in an extensive road-test program will be covered in a new report, MR-218.

The committee decided against a requested extension of the time limit for lubrication of roller-bearing equipment, pending additional experience under present Rule 66-A.

Over 3½ million miles were reported with the Empire lubricator device on 70 cars, both freight and passenger, and it was agreed to forego further laboratory tests with improved back ring and cover seals, making approval for added installations above the 1,000 car sets of this device now authorized dependent upon road service results.

Service tests were approved for several thousand journal lubricator pads and packing rolls furnished by the Miller Waste Company, National Waste Company, and Journal Box Servicing Corporation, and for the McLeod roll. Although several hot boxes were reported with Laudig iron-back journal bearings, the general service experience with this bearing was reported as satisfactory. A check of Plypak applications to 4,650 70-ton cars since April 1952 showed a ratio of 1 to 4.299 hot boxes, as compared with conventional boxes, or a reduction of 77 per cent in favor of Plypak.

With the RS journal stop and packing retainer, impact tests at speeds up to 9½ mph showed no displacement of packing, and journal bearing dislocation and damage were prevented. A test was made to determine if prolonged contact between journals and the RS stop would produce overheating. Heavy braking of a test car on 21 miles of grades from .5 to 2.25 per cent failed to show this effect. As a result of these tests, the application of the latest design of RS journal stop and packing retainer was authorized up to 1,000 car sets in general interchange service.

Machinery and Steel Loading

All loading rules are subject to change and improvement each year and the committee recommended in its 1954 report a number of revisions of the general rules, such as covering red, or amber lights, or reflectors, so as to prevent reflection and avoid conflict with train operating lights or signals; sealing or twist-tying high-tension bands or wires so as to assure 85 per cent of full strength; and inclusion of fir as acceptable for bearing pieces, braces, cleats, wedges and blocks.

It also recommended that loading machines be acceptable for shipment with treads extending beyond the car floor, providing the machines are centrally located and the extension does not exceed one-half the tread width on each side. Full support for the overhanging counterweight of rotary cranes was urged as a mandatory requirement.

Additional loading-rule revision is under study for 9 steel products, 1 machinery, 4 pipe, 6 miscellaneous commodities, 9 crawler-type and wheeled vehicles, and 13 Department of Defense material items.

The committee reported working with the American Iron & Steel Institute to develop loading methods to assure more nearly damage-free shipment of hot and cold-rolled steel products and thus facilitate return of some of this tonnage to the rails. The necessity was again stressed of maintaining flat-car floors and anchorage devices in better condition, generally, than at present to attract and hold car loadings, especially of farm equipment and road-building machinery.

The Special Committee on Forest Products Loading recommended numerous rule changes which were approved by shippers and found necessary in the interest of safer rail shipments. In the loading of piles, for example, it was recommended that they be prepared with one square end to assure a more stable load; that piles be located not over 6 in. apart to permit normal end shifting without need for readjustment; that overhang be reduced on shorter lengths of small lumber and confined to one end.

The loading of packaged lumber in lengths of 7 ft and over was approved, contingent upon a full complement of side stakes and additional high-tension band securement. Several changes were approved in pole-loading figures, at the request of shippers, and experimental shipments authorized.

The committee believes that the changes will result in greatly improved lumber shipments and definite reduction in the number of load adjustments necessary en route.

Locomotive Developments

The name of the committee has been changed to Committee on Locomotives, and it henceforth will function with a chairman and one vice-chairman.

Originally a study of flange lubricators was undertaken to develop suitable means for lubricating diesel-electric locomotive driving-wheel flanges to prevent or reduce flange wear when heavy dynamic braking is employed. Units operating in multiple are reported to have a tendency to "jacknife" under heavy buff especially where road switchers are used in multiple in pusher service, with roads reporting overturned rails under heavy buffing stresses on tangent track.

Because of the relationship to track conditions, this phase of the problem has been referred to a joint committee to determine what steps should be taken. Remedies suggested include bolster stops, shimming of coupler yokes and the use of Type F couplers. Tests, with box cars, under 180,000 lb pushing pressure indicate 3,700 lb lateral pressure with the Type F coupler as compared to 4,500 lb with the rigid shank Type E couplers and 22,700 lb with swivel shank Type E.

Dynamic braking has introduced the problem of flange wear on straight track on descending grades and in pusher service on straight track on ascending grades and the committee suggested that any of the established designs of flange oilers will do a good job, if properly maintained.

A number of roads are trying a simple stick lubricator

(*Continued on page 39*)

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Railway Officers

TEXAS & PACIFIC.—R. S. Goode has been named secretary at Dallas, Tex. (*Railway Age*, April 5).

(*Continued from page 14*)
Tex., succeeding **F. A. Parker,** deceased.

William G. Reid, superintendent motive power at El Paso, Tex., retired June 1 after 51 years of service. Also retiring are **L. T. Fife,** master mechanic at San Francisco, and **J. M. Holt,** general master car repairer at that point. **Frank Kurz,** master mechanic at El Paso, has transferred to succeed Mr. Fife, while **O. H. Gutsch,** shop superintendent t El Paso, replaces Mr. Kurz.

TENNESSEE, ALABAMA & GEORGIA.—Buford W. Brannon has been appointed general freight agent in charge of sales and service at Chattanooga, Tenn. **Harry T. Thompson** has been appointed car accountant. The position of superintendent car
(*Continued on page 40*)

TOLEDO, PEORIA & WESTERN.—As *Railway Age* reported June 14, Robert J. Dunn, general roadmaster, has been promoted to engineer—maintenance at Peoria, Ill.

MECHANICAL DIVISION REPORTS

(Continued from page 37)

with molybdenum disulphide, without springs, one road reporting that a ¾-in.-diameter stick 10 in. long lasted about 60 days in switching service.

The committee, with mechanical research, is endeavoring (a) to determine the most effective and practical filter medium and (b) to effect standardization for filters for fuel oil, lubricating oil, engine air, car-body air and compressor air intake. The committee offered drawings of fuel oil filters and elements as indicative of the need for standardization and is collecting data preparatory to further study.

Attention was directed to the fire hazard incident to the accumulation of oil, carbon and dust in shop and terminal exhaust ducts, jacks or stacks so that necessary cleaning procedure can be set up.

The report contained information on the status of gas turbine locomotives on the Union Pacific, the coal-fired locomotive equipment at Dunkirk, N. Y., and a 300-hp oil-fired gas turbine locomotive to be built for the U. S. Army by Davenport-Besler, scheduled for completion this year.

The report mentioned also (1) the fact that the Westinghouse oil-fired gas-turbine locomotive has been removed from service and dismantled with no additional locomotives of this type being under consideration; and (2) the completion of the Norfolk & Western 4,500-hp steam turbine electric locomotive. Since preparation of the committee report this locomotive has been placed in test service on the N&W.

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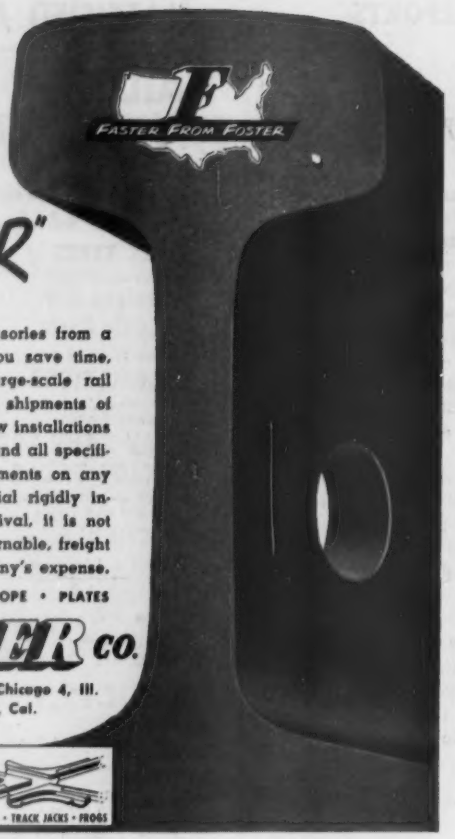

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Railway Officers

(Continued from page 38)

service, formerly held by the late **R. N. Sloan,** has been abolished.

TEXAS CITY TERMINAL.—F. J. Heiling, assistant to general manager, has been elected president and general manager at Texas City, Tex.

WESTERN MARYLAND.—H. B. Beaumont has been appointed valuation engineer at Baltimore, succeeding **E. M. Killough,** retired.

SOO LINE. — R. D. Johnson, traveling engineer at Fond du Lac, Wis., has been appointed fuel supervisor at Minneapolis, succeeding **H. H. Link,** who has been promoted to master mechanic at that point to replace **F. Johnson,** who has retired after more than 44 years of service.

OBITUARY

Hale Holden, Jr., formerly a vice-president of the **Pullman Company,** died June 30 at Black Point, Conn.

Erich W. Lademann, general attorney of the **Baltimore & Ohio** at Chicago for 34 years, died July 7 at Highland Park Hospital, Highland Park, Ill.

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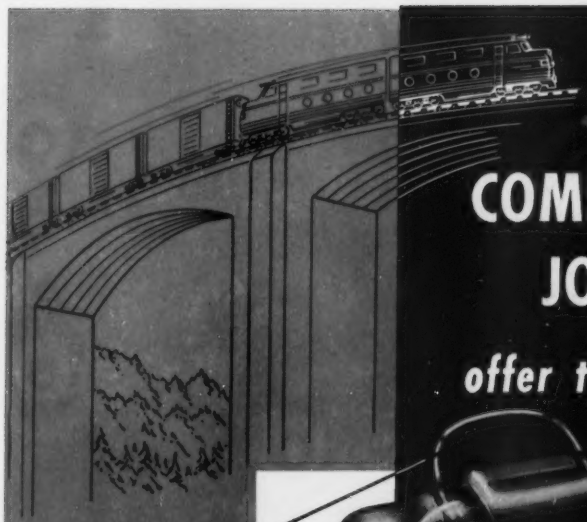

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Connects Housing and Cover. Securely welded in place.

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Place in horizontal position over Hinge Lug
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PIN
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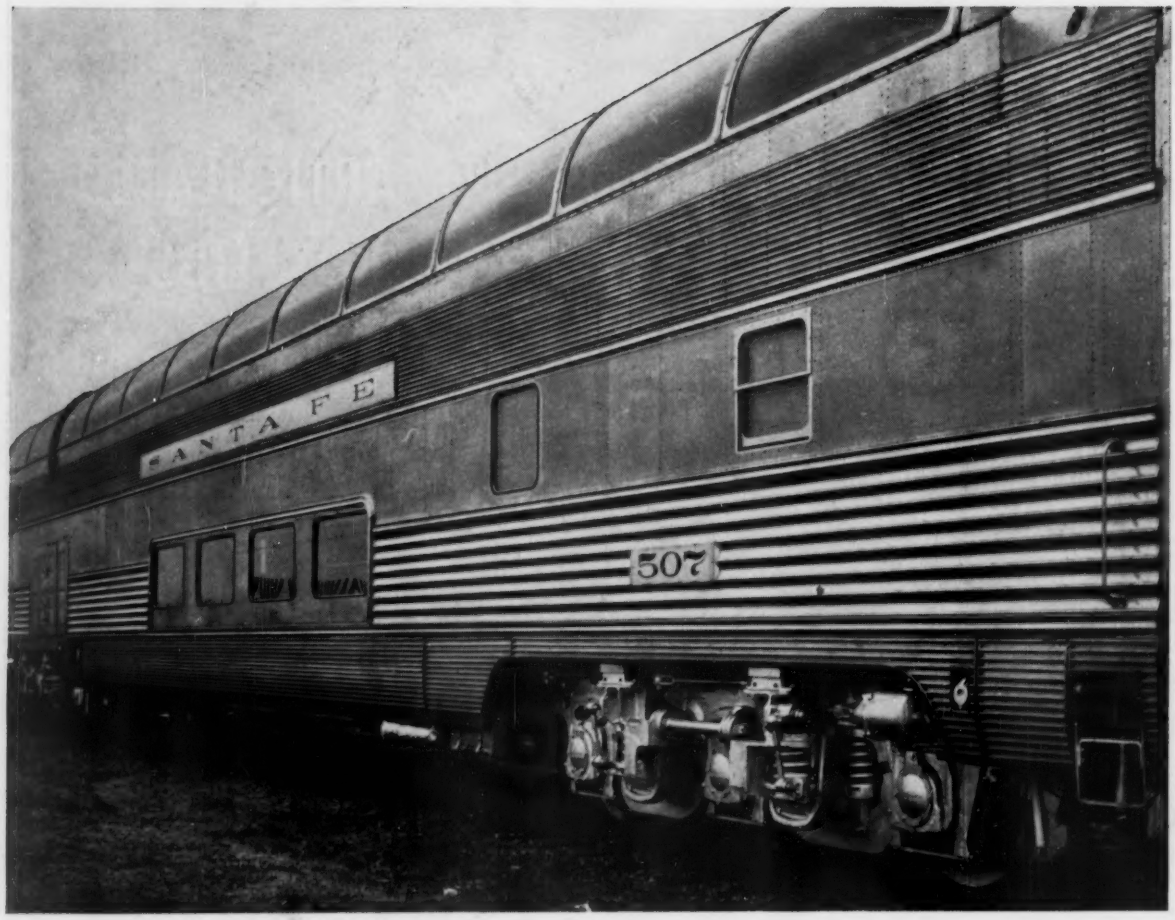

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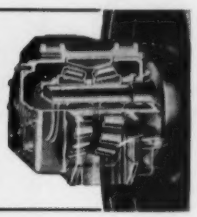
2. POSITIVE ROLLER ALIGNMENT. The taper holds ends of rollers snug against the rib, and their wide area contact keeps the rollers properly aligned. Cage acts only as a spacer. The rollers can't skew to upset the full line contact. As a result, the load is always carried the *full* length of the rollers.

Make sure you are getting all that a roller bearing can give you. Get Timken tapered roller bearings. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO."

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS



NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ⬮ AND THRUST →⬮← LOADS OR ANY COMBINATION ✳